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ABSTRACT

The project described in this paper was designed to test specific ways of improving the dissemination of school finance information in two big city school districts (St. Louis and Kansas City, Missouri), in order to enable them to compete more effectively for State aid. Part I presents the political and fiscal environment in which Kansas City and St. Louis lobby for increased State education aid. Part II contains the project history: a chronology of collaborative activities carried on by two cities and by the Education Policy Research Institute, and an overview of the products that emerged from their collaboration. Part III assesses the impact of the project on changing the capacity of the two school districts to lobby more successfully for State school aid and on their ability to work more collaboratively with each other and with other school districts on this issue. Part IV outlines the components of an urban educator's handbook on state school finance policy processes. Attached to the report are (1) a 26-page paper on the Missouri School Finance Formula; (2) a dissemination conference outline; (3) information on Missouri's general data file layout; (4) an overview of and sample output from the School Finance Equalization Management System (SFEMS); (5) tables of contents for SFEMS manuals, and a training agenda; and (6) a 22-page paper on measuring school districts fiscal capacity. (CMG)

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DISSEMINATION OF SCHOOL FINANCE SERVICES
IN URBAN SCHOOL DISTRICTS

FINAL REPORT

N.I.E. Contract No. 400-81-0009

Submitted to National Institute of Education

by

Margaret E. Goertz

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DISSEMINATION OF SCHOOL FINANCE SERVICES IN URBAN SCHOOL DISTRICTS

FINAL REPORT

Purpose of the Project

Like many of their suburban and rural counterparts, big city school systems are finding their financial fortunes increasingly determined by state legislatures. In 1981-82, fifty percent of local school district revenues came from state sources; the corresponding figure was 40 percent ten years ago. As cutbacks in federal education aid programs grow larger, the nation's large cities will desperately need even more state assistance. Yet, most large city school districts are not well-equipped to process or disseminate the crucial financial information on which to base an effective case at the state capitol. Often they are hampered by three institutional weaknesses: (1) lack of practical experience in the state policy process; (2) limited staff expertise on school finance issues; and (3) inadequate tools for identifying school districts with similar financial interests.

This project was designed to test specific ways of improving the dissemination of school finance information in big city school districts. The Education Policy Research Institute (EPRI), working collaboratively with the center city school districts of St. Louis and Kansas City, Missouri, planned and conducted a series of practical exercises designed to enhance the capacity of these two school systems to compete more effectively for state education resources. This Final Report summarizes the substance of the exercises and evaluates the success of these activities. It is divided into four parts.

Part I presents the political and fiscal environment in which Kansas City and St. Louis lobby for increased state education aid. Part II contains the project history: a chronology of activities carried on by all three participants and an overview of the products that emerged from these collaborations. Part III assesses the impact of the project on changing (1) the capacity of the two large city school districts to lobby more successfully for state school aid and (2) their ability to work collaboratively with each other and with other school districts on this issue. Part IV outlines the components of an urban educator's handbook on state school finance policy processes.

Part I: The Environment of Missouri School Finance Policymaking

Missouri is a socially, politically and fiscally conservative state. A now forgotten Congressman, William Vandiver, declared in 1889: "Frothy eloquence neither convinces nor satisfies me. I am from Missouri. You have to show me." Today the Random House dictionary even includes a definition of the phrase "from Missouri;" it means: "unwilling to accept without proof, skeptical."¹ Although the state has two major metropolises within its borders, the state capitol and governor's mansion in Jefferson City have generally been controlled by rural and small-city legislators and by governors who place somewhat between moderate and conservative on an ideological scale.

Political Environment

Missouri is currently governed by a Republican, second-term (and lame-duck) Governor, Kit Bond, and a Democratically-controlled legislature. Bond

¹Neil Peirce, The Great Plains States (New York: W.W. Norton and Company, 1973), p. 34.

has taken a strong anti-tax increase stance, preferring to "tighten the State's belt" and collect unpaid taxes due the inefficient Department of Revenue. The governor's stand will run into little opposition on either side of the aisle in the General Assembly. The Senate, historically much more conservative than the conservative House of Representatives, usually rejects taxes that (a) would hurt business, (b) would hurt banks or farmers or (c) would be used to create new programs and services.

Missouri has a diverse social and economic composition. Its two largest cities, St. Louis and Kansas City, have the usual litany of urban ills: declining tax bases, large minority populations (the St. Louis public schools have a 79 percent minority enrollment while those in Kansas City have a 73 percent minority population), and the higher costs of maintaining an aging infrastructure and of supporting an aging and impoverished population. A large gulf exists between these two metropolitan areas and the rest of Missouri that is characterized by small sized cities and rural populations.

Most political battles in Jefferson City are fought along these rural/urban lines. A dispute over the distribution of new state education revenues in the 1981-82 legislative session is an example. The House favored the inclusion of two factors in the formula that would direct more aid to the cities and their suburbs: a cost-of-education index and an adjustment for declining enrollment. The rurally-dominated Senate, however, was strongly opposed to these changes. This deadlock almost doomed chances for the increase in the cigarette tax which was earmarked for education; a similar

"Mexican standoff" killed a proposed half-cent sales tax for education the previous year. The ongoing desegregation litigation in St. Louis has aggravated the urban/rural tensions. The federal court recently ordered Missouri to pay one-half the cost of intra-city integration programs in St. Louis with the check to be drawn directly from the state treasury. Several members of the legislature responded to this action by introducing anti-busing amendments to school aid legislation in the 1982 session.

Fiscal Environment

The social and political conservatism of Missouri is reflected in its fiscal policies. Among the 50 states, Missouri ranks 46th in state tax effort, 47th in per capita state expenditures for education and 50th in per capita state expenditures on all functions.² Average teacher salaries are low, with a rank of 37th nationally, and the current expenditure per pupil (ADA) of \$2101 in 1980-81 is 32nd in the nation.³ These facts have become the focus of efforts by education interest groups and, most recently, the State Board of Education to generate more state tax revenues in support of the Foundation Aid program.

Facing the double whammy of federal cutbacks and a stagnant economy, state legislators limited the growth in the major state education aid programs to 3.5 percent a year in fiscal 1981 and 1982. The legislature passed a fiscal year 1983 budget which increased state expenditures by a mere 2.5 percent. Few new programs were funded and state employees received only token

²National Education Association, Rankings of the States, 1981 (Washington, D.C.: NEA, 1981).

³Ibid.

pay raises. Proposals by the House Speaker to increase a variety of tax rates to bail out the State from its fiscal problems and to make the state tax system more equitable failed due to opposition from the Governor and the Senate President. Only two tax increases were passed: a four-cent increase in the state cigarette tax dedicated to education, and a four-cent increase in the state gasoline tax. Proceeds from the increase in the cigarette tax rate, coupled with a small increased allocation from general state revenues, will raise state education aid by seven percent in FY 1983.

Structure of State Aid to Education

In 1980-81, Missouri's school districts derived 10.1 percent of their support from the federal government, 36.9 percent from state funds, and the remaining 53.0 percent from local revenues. The local share has decreased by five percentage points since the mid-1970's, in part the result of a reform formula which was implemented in 1977-78 and in part due to growth in federal aid.

Nearly three-quarters of Missouri's education aid is allocated through a Basic Grant Program. The Basic Grant Program consists of two formulas: the Minimum Guarantee Program and the Guaranteed Tax Base Add-on Program. At least 75 percent of the basic grant program must be spent for teachers' salaries during the year in which aid is received.

The Foundation level is set at 75 percent of the state average current expenditure per pupil for the second preceding year. Pupils are given an additional 0.25 weighting if they are orphans or live in families receiving Aid with Dependent Children (AFDC). The required tax rate, 57 percent of

the state pupil-weighted levy for the second preceding year, is applied to property valuation per pupil. This tax rate is adjusted by each district's relative income per return. Thus, those districts with below average incomes will have a lower required tax rate than those with average or above average incomes.

The Guaranteed Tax Base Add-on program (GTB) applies to all districts which levy a school tax rate above the required rate, and that have a property valuation per pupil at or below the 88th percentile wealth.

Exceptional Pupil Aid (Special Education) represents 8.8 percent of total state aid. These funds are allocated on the basis of approved special education classroom units, ranging from \$7,425 to \$9,784. The reimbursement rate is adjusted annually to reflect changes in the legislative appropriation. This aid must be spent on staff salaries. The appropriation process lumps Basic Grant Aid, Special Education and Transportation aid together. Special education and transportation aid are taken "off the top" of each year's allocation; the remaining Basic Grant funds are then prorated downward.

Table 1 shows the allocations for these three programs over the last seven years. Three trends emerge. First, while total appropriations grew at a rate of 12 percent a year between 1976-77 and 1980-81, in the last two years, the fiscal crisis has limited this growth to 3.5 percent a year. Second, transportation funding has been drawing off money from other programs over the last six years, with its share of the foundation program appropriation growing from 6.6 to 10.5 percent. Special education's share of the fund has

Table 1

Appropriations for Foundation Program (in millions) and
Percent of Total

<u>Year</u>	<u>Total Approp.</u>	<u>Special Education</u>	<u>Transportation Aid</u>	<u>Basic Grant</u>
1976-77	\$ 428.8	36.2 (8.4%)	28.4 (6.6%)	364.2 (85.0%)
1977-78	480.8	42.0 (8.7%)	41.1 (8.5%)	397.7 (82.7%)
1978-79	526.8	50.2 (9.5%)	46.1 (8.8%)	430.5 (81.7%)
1979-80	593.6	57.2 (9.6%)	53.7 (9.0%)	482.7 (81.3%)
1980-81	683.6	66.6 (9.7%)	66.0 (9.7%)	551.0 (80.6%)
1981-82	707.6	70.2 (9.9%)	74.5 (10.5%)	562.9 (79.6%)
1982-83 (Estimated)	759.6			

grown slightly from 8.4 to 10 percent. Third, as a result, the Basic Grant program currently garners 80 percent of the Foundation Program, down from 85 percent in the mid-1970's. Coupled with the slowed increase in total appropriations, growth in Basic Grant funds has been miniscule.

St. Louis and Kansas City receive considerably different amounts of aid under the Basic Grant formula. For purposes of computing state equalization aid, Kansas City is a wealthy district; its per pupil property valuation was \$50,459 in 1979-80, a figure that was 169 percent of the state average. St. Louis' property valuation, on the other hand, was \$28,931, a value slightly below the average. As a result, Kansas City received only \$14.6 million in Basic Grant aid in 1980-81, or \$417 per pupil, compared to St. Louis' receipt

of \$55.4 million, or \$984 per pupil. Even when all other state aids are included, Kansas City received only 25.2 percent of its education revenues from the state, while St. Louis received 46.9 percent of education dollars from this source.⁴

Part II: Project History

The project contract was let in January 1981, at the beginning of the state's legislative session and after the deadline for introducing new bills. Therefore the calendar of activities was arranged so that the simulation capability and "options" paper would be available in time to develop new proposals for the 1982 legislative session.

Organizational meetings were held separately in St. Louis and Kansas City on February 5 and 6, 1981. Project participants arrived at a consensus on four major activities for the project and on a structure for administering the project. The activities identified were:

- (1) Identifying the specific training and simulation needs of the St. Louis and Kansas City school districts, and identifying state school finance issues that are of greatest concern to the two districts;
- (2) developing training materials and providing training sessions on the operation and impact of the Missouri state aid formula on the state's largest cities, related urban school finance issues, and the development and evaluation of alternative state school finance programs;

⁴Missouri State Board of Education, 1980-81 Report of the Public Schools, LEA Tables 1, 2, 4.

- (3) conducting a feasibility study of the implementation of a school finance simulation model in the participating school districts, and, where possible, testing computer software and data bases and training staff in the use of these software; and
- (4) preparing a series of brief memoranda for the collaborating school districts summarizing state-of-the-art knowledge about selected issues in urban school finance and other issues as identified by the two districts.

The governance structure is shown in Figure 1. Margaret Goertz was responsible for coordinating activities among EPRI, the St. Louis Public Schools and the Kansas City Public Schools. William Pearson and Gerald Moeller oversaw project activities in the St. Louis and Kansas City School Districts respectively, in direct consultation with the district superintendents.

Since the project was initiated in the middle of the two districts' budget seasons, it was difficult to convene a meeting of superintendents and their staff in the spring to discuss school finance issues. Project staff preferred to focus on school finance training activities and the testing of software and data base systems in the spring and summer of 1981, leaving a detailed discussion of their common school finance problems and legislative programs for the 1982 session for an October 1981 meeting.

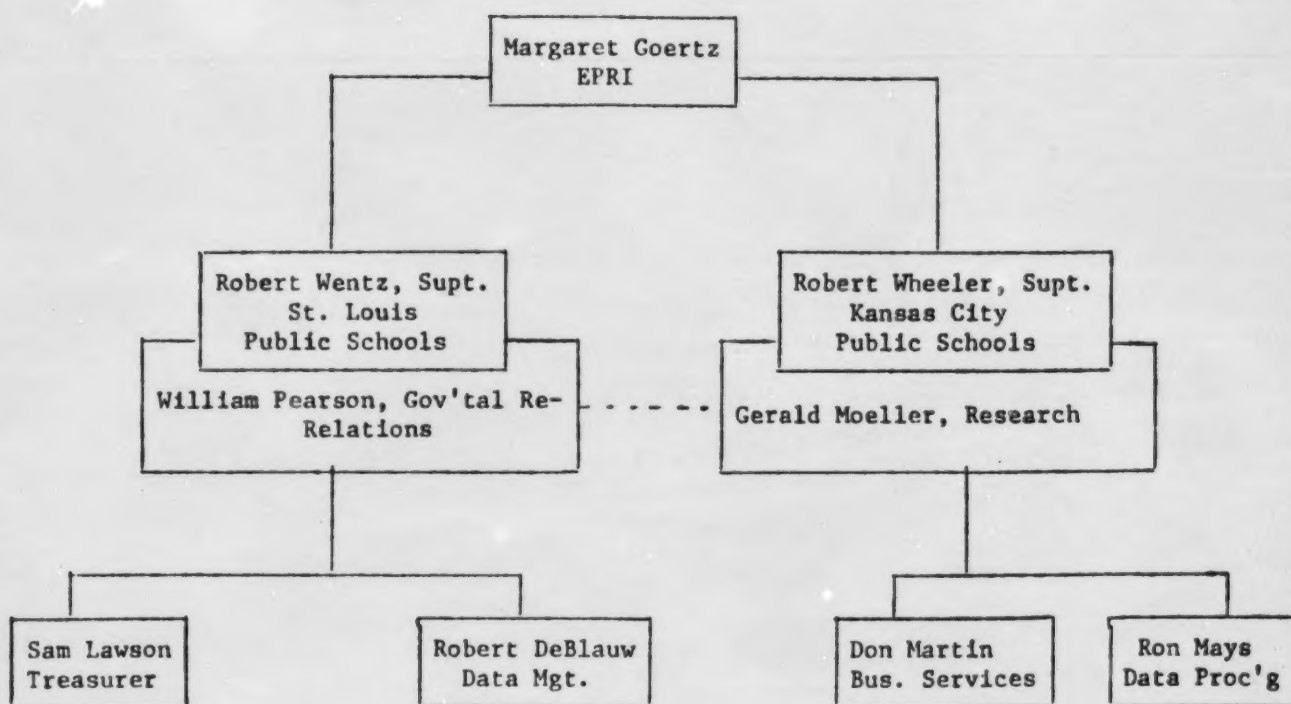
School Finance Training Activities

During the spring of 1981, EPRI staff developed a guidebook which describes the operation of the current Missouri state education aid formula. (See Attachment A.) This guidebook was used along with a previous NIE publication, Plain Talk About School Finance, in training sessions conducted in St. Louis and Kansas City on May 21 and 22, 1981. These materials were

Figure 1

Proposed Organization Chart

Dissemination of School Finance Services in
Urban School Districts



also available for distribution to other interested parties by the staff of both districts. The training sessions covered the operation and impact of the current Missouri education aid formula and alternative formula provisions which meet specific urban school finance problems. Attachment B presents the agendas for these two meetings. State legislators representing each of the cities, members of the district school boards, and school district office staff were invited to these sessions. Participants at the Kansas City training session also included representatives of interested citizen groups, such as the Junior League and Kansas City Today.

Developing Computerized Simulation Capabilities

EPRI staff conducted initial assessments of the computer capacities of each of the school districts in spring 1981. EPRI's software package, the School Finance Equalization Management System (SFEMS), could provide the necessary simulation and analytic capability if the program were compatible with St. Louis Public School and the Kansas City Public School computer systems. It was found that the computer in St. Louis could run the SFEMS program without any problems. The computer system in Kansas City at that time was unable to run SFEMS without major difficulties. As that district was in the process of obtaining a larger, more modern system, EPRI did not look for alternative simulation programs to fit their old computer.

Between June 1, 1981 and October 1, 1981, EPRI completed three more tasks in the development of a computerized simulation capability in the St. Louis and Kansas City school districts. First, with the assistance of the Missouri State Department of Education, EPRI compiled a set of school finance

data for all districts in the state, including those elements used to compute the current state aid formula (1979-80 wealth, tax rates and pupil counts) and education aid payments for the 1980-81 school year. This information is required to simulate the existing state education aid formula and alternative aid formulas, and to compare the impact of alternative plans against current distribution of aid. A copy of this data base is contained in Attachment C.

Second, changes were made to EPRI's software package SFEMS so that it could replicate the current Missouri education funding system. Attachment D shows sample output from a simulation of the Missouri formula, including the steps required to run the simulation, detailed reports for Kansas City and St. Louis, a per pupil report sequencing all districts by per pupil property valuation, and a report with district aggregate figures listed by district code. Each report compares the 1979-80 basic aid allocation with 1980-81 aid payments, and summarizes the number of districts gaining or losing aid. Also included is a description of the SFEMS.

Finally, much of September was spent identifying key school district personnel who would utilize the computer software package and developing materials to be used in the training of these staff.

In October 1981, SFEMS was installed in the St. Louis Public Schools; staff were trained in its use on October 22 and 23, 1981. Attachment E contains the agendas for the St. Louis training session and the tables of contents for the "policy users" and "technical users" materials.* Kansas

*Because of the bulkiness of these materials they could not be included as an attachment to this report. One complete copy was submitted to the Project monitor with the Final Report.

City Public Schools installed an IBM 4341 computer in January 1982. This machine gave the district the storage capacity to run SFEMS, but the district did not have the FORTRAN compiler needed to process the program. In late May the district looked at a number of alternative ways of overcoming this problem, and ultimately asked their IBM representative to have the program compiled for them. A training session was scheduled in Kansas City for August 24 and 25, 1982, but cancelled by the district at the last minute for two reasons: (1) the key personnel involved in this project left the district's central offices in mid-August, leaving no staff with the interest or knowledge in school finance issues to use the computer system and (2) the program was not compiled by IBM and district data processing personnel were at a loss as to how to run the system on their computer.

Identifying Common School Finance Issues

On October 23, 1981 the staff of the collaborating school districts met with the project director in Columbia, Missouri to (1) review current state legislative activity in the areas of school finance and state taxation; (2) review the proposed legislative packages of the St. Louis and Kansas City school districts; (3) discuss topics for state-of-the-art papers; and (4) generate specific proposals which could be tested on the computer simulation model and which might lead to joint support of proposals for the 1982 legislative session. The participants included deputy and assistant superintendents, financial officers, and lobbyists from both school systems.

A review of the districts' proposed legislative packages revealed some common interests and some that were unique to the needs of each city. The common interests were (1) increased state aid to education; in particular,

support of legislation introduced by Rep. Gary Sharpe that would incorporate a cost-of-living index and declining enrollment factor into the equalization aid formula; (2) liberalizing the requirements for voter approval of local school levies; (3) increasing local home rule (e.g., giving school districts authority to levy new, additional taxes); and (4) grandfathering the current AFDC count used in the equalization aid formula. The specific concerns were:

Kansas City

- ° Developing urban add-ons to the state aid formula that would be 80 percent off the formula and 20 percent in the equalization aid formula;
- ° allowing industrial revenue bonds to be used for capital improvements to the schools in order to by-pass the two-thirds vote needed to pass educational improvement bond issues; and
- ° minimizing the effects of reassessment on the calculation of formula aid and local tax rates.

St. Louis

- ° "Improving" the foundation program but not "tampering" with the current formula;
- ° collective bargaining;
- ° getting more balance in the membership of the Retirement Board;
- ° a more flexible school day and school year;
- ° legislation that would not penalize districts with a loss of state aid for days lost due to staff strikes; and
- ° more balancing of staff re: age (using Minnesota's teacher mobility bill as a model).

The school district officials agreed informally to some legislative tradeoffs (i.e., I'll vote for your bill because it doesn't affect my district if you'll do the same for my bill). It was obvious, however, that

it will be difficult to work out a consensus on changes to the major state education aid program as it impacts so differently on the two districts. St. Louis gains aid whenever any new state dollars are allocated using the existing equalization aid formula; Kansas City is a "saveharmless" district and does not. Therefore, compromise must revolve around formula aid adjustments that help Kansas City without hurting St. Louis.

There was agreement that the most useful "state-of-the-art" papers would address issues that are unique to urban school districts and could lead to the development of "urban add-on factors" to the state aid formula: redefining fiscal capacity, the higher costs of educating students in cities, and special education. As considerable research has been conducted on cost-of-education differences in Missouri by the Education Commission of the States, there was no need to prepare a paper on this topic. A paper was written on the topic Measuring Fiscal Capacity in Support of Education and is included as Attachment F. Insufficient research was available at the time to prepare a background paper on the unique costs of special education in the cities, and this project lacked sufficient funds to look at the special circumstances of St. Louis and Kansas City.

Part III: Assessing the Project's Impact

As stated earlier in this report, our project had two general goals:

- (1) enhancing the capacity of the St. Louis and Kansas City school districts to lobby more successfully for state school aid by increasing their technical expertise and analytic capabilities in the area of school finance and
- (2) enhancing the districts' ability to work collaboratively with each other and with other school districts on this issue.

Enhancing School District Capacity in School Finance

The first project goal was addressed by providing technical training on the operation of Missouri's school finance formula and by testing, installing and training staff in the use of a computer simulation package, SFEMS. The impact of these activities will be limited, however, unless school district personnel have a commitment to apply this training and these tools to developing new school finance policies.

It appears that this commitment is lacking in both the St. Louis and Kansas City school systems for three reasons. First, school finance is not a day-to-day operational issue in an urban, or any other, school district. The primary consideration in school districts is how to allocate increasingly scarce resources, not how to raise them; state aid is viewed as just another item on the district's balance sheet. It seemed that much more of the top staff's attention was devoted to federal aid, although in both districts, and especially in St. Louis, federal aid provides less revenue than state aid. Each federal aid program requires a separate application form, due at different times during the year, and prepared by different offices within the district. Applying for state aid is a more routine exercise with established forms and data collection.

Second, there are few staff knowledgeable about the topic of school finance in Missouri's urban school districts, or in any urban school district in the country. In addition, the districts' school finance "experts" have other, much broader responsibilities as central office administrators, and have no staff assigned to the issue of state school finance. In the case

of St. Louis, the resident expert is the district's Treasurer who is divorced from the setting of intergovernmental policy. This staffing situation reflects the low priority given to the topic of school finance in the districts and as school district budgets are increasingly sequeezed by inflation, declining tax revenues and shrinking federal funds, there will be no extra staff available to focus on this topic. In Kansas City, for example, the school district raised funds through a business-based public education coalition to pay for the services of a lobbyist in Jefferson City.

The school finance and computer software training sessions involved staff from other departments of the school district. But these are not people who deal with school finance on a regular basis, and there is no reason to believe that the training alone will get them more involved developing school finance policy.

Finally, the central administrations of these city school districts are not structured to deal with long-range policy issues like changing a state education aid formula. Few school districts have developed a capacity for long-range planning and the financial squeeze facing these systems has led to a "management by crisis" management style. For example, one phase of this project was to conduct an assessment of the information needs for school finance policymaking in Kansas City and St. Louis. Questions included: What would be the role of a school finance simulation model in making policy decisions in the district? Where should this capability be housed? What technical and policy staff should be trained in its use? What state aid issues are of most concern to the district? The project staff seemed disinterested in carrying out this type of assessment, however, and could not see the need for it.

The lack of this assessment process has resulted in confusion over who is responsible for maintaining and operating the computer simulation system. SFEMS, because it is a computer program, is housed in the data processing departments of school districts. The data processing staff wait for "someone from research" or "someone from the superintendent's office" to tell them what to do with the program. The policymakers, meanwhile, expect the data processing staff, who are not involved in substantive issues in the department, to design the analyses (policy questions) as well as run the software. Until top management specifies the questions that the computer simulation should address and assigns personnel to be responsible for generating these questions and interfacing with the data processing staff, SFEMS may collect dust.

Increasing Collaboration among School Districts in Missouri

A second goal for this project was increasing the capacity of St. Louis and Kansas City to identify school finance issues of common concern to each other, and to other school districts in the state, for purposes of building coalitions in support of school finance reforms. For example, the two city school districts would benefit from the incorporation of a cost-of-education index in the current state aid formula. Computer simulations would identify other districts, most likely located in suburban Kansas City and St. Louis counties, that would also receive increased aid under this type of adjustment.

It is difficult to measure the degree to which this second goal has been achieved. The driving force behind the development of collaborative efforts was the Kansas City Public Schools. As noted earlier in this report, it is

this school system that has the incentive to press for modifications to the existing state aid formula. Their staff was interested, for example, in examining the impact of changes in the fiscal capacity measure, such as moving totally to an income factor in the formula, on Kansas City and other urban and rural school districts. Since installation of their new computer precluded the installation of SFEMS during the 1982 legislative session, EPRI ran some simulations for Kansas City to show who would have the most to gain, and who the most to lose, under this type of alternative. A sample of this computer analysis is included in Attachment G. With the departure of Dr. Moeller and his assistant, Dr. Susan Hartley, from the central office, I suspect that there will be little call for this kind of analysis in the near future.

A coalition of lobbyists and elected officials from Kansas City, Jackson County (suburban Kansas City), St. Louis and St. Louis County did successfully support a number of related bills in the 1982 legislative session:

- ° allowing governments to sell bonds with approval by four-sevenths, rather than the present two-thirds requirement;
- ° allowing school districts to increase their operating levies from \$3.75 up to \$5.25 on \$100 of assessed value with only a simple majority voter approval, rather than the current two-thirds requirement (Amendment 4);
- ° providing a four-cent-a-pack increase in the cigarette tax earmarked for education; and
- ° eliminating the Merchants and Manufacturers tax on inventories and lessening the impact of statewide reassessment on homeowners and farmers (Amendment 7).

Amendments 4 and 7 were placed on the August 4th primary election ballot; number 4 was defeated while number 7 passed. The cigarette tax does not have to go before the voters.

The two cities have been collaborating for a number of years on this type of legislation. Both school districts are politically very savvy and employ lobbyists in Jefferson City. There are limits to the extent of this collaboration, however. Although they share many common educational problems, the two school districts operate within different economic and political environments. For example, while St. Louis supported the inclusion of cost-of-education indices and declining enrollment adjustments in the current state aid formula, they could also support greater funding of the formula without these changes. Kansas City could not, and has pushed to have new state education aid dollars distributed on a straight per pupil basis. Thus, while the districts concur on the need to increase the state's contribution to education, they part company on many of the ways of distributing these dollars.

The Role of a Research and Development Organization in This Type of Collaborative Effort

An R & D organization, such as EPRI, can make four contributions to a collaborative effort like the one developed in this project.

(1) Helping the collaborators determine what questions to ask of their state school finance system. This requires training in how the state aid formula operates and in how to identify those key variables that help or hurt the cities.

(2) Identify other finance issues, such as the structure and funding of programs for special needs populations, or the funding of teacher pension programs, that should be of concern to the collaborating districts.

(3) Provide timely and relevant information on how other states have dealt with similar problems. A number of organizations, many with N.I.E. support, conduct research and disseminate information on the operation of state school finance systems. It is the role of the R & D firm to sift through this literature, determine which is relevant to the collaborators' situation, and design alternative policies based on the existing "state-of-the art."

(4) Provide an analytic framework and tools for evaluating the impact of existing and proposed education funding programs. This type of training builds on that provided in the first activity, but focuses on how to simulate alternative proposals, either manually or mechanically, and on how to evaluate their impact for purposes of building political coalitions with other school districts.

However, certain conditions must exist prior to the involvement of the R & D organization for this type of collaboration to be successful.

- ° The collaborating school districts must all have a well-defined and a long-term stake in school finance reform.
- ° The districts must be willing to commit on-going resources to this activity. The personnel who are directly involved can, and perhaps should be, middle-level staff who have the time to commit to this project, and who won't be continually distracted by other day-to-

day concerns. Yet, these staff must have access to top-level decision-makers in the district, to those personnel who will be negotiating support from other school districts and from legislators at the state capitol.

- The districts must be willing to view school finance reform as an integral part of their administrative activities. A number of staff, often located in different parts of the organization and reporting to different supervisors, will be involved in school finance evaluations -- finance, data processing, research and evaluation, and intergovernmental relations. Someone in the administration must be responsible for defining the purpose of the project, for setting priorities and for coordinating activities across departments.

If these preconditions do not exist, the R & D organization will not have any "capacity" to build up.

How can one tell whether the necessary conditions exist to support a successful collaborative effort in the area of school finance? What kinds of questions should a contractor, such as NIE, ask before funding such a project? I believe that the St. Louis/Kansas City project provides some valuable lessons.

First, one should determine more specifically what the products of the collaboration will be before the collaboration begins to insure institutional commitments to all activities. For example, the goals of this project were to "increase capacity" and "enhance collaboration." The details were to be spelled out in a series of planning meetings after the contract was let. There was little interest, however, in either school district in undertaking this planning process. The list of project activities was developed by EPRI, with the result that the districts did not have a major stake in their conduct.

Second, the structure of the collaboration should be spelled out more clearly in a proposal, showing the staff to be involved, their role in the project, and how they will be held to their "in-kind" contribution of

time. These guarantees are necessary to insure that staff understand the nature of their contributions and their importance to the success of the project.

Finally, collaborators should make clear how the project meets institutional priorities and how project activities will be absorbed into the structures of their organizations. For example, both Kansas City and St. Louis were interested in knowing more about state school finance issues so that they could increase the flow of state aid into their coffers. But this issue did not concern many district staff, school finance personnel were scattered throughout the organization, and the district administrators did not take steps to pull this group together, even on an ad hoc basis.

There are some problems that cannot be foreseen by a contractor, however. One is the impact of fiscal cutbacks on these kinds of collaborative efforts. Another, which is sometimes related to the first, is staff turnover. By the end of this project, both school district superintendents had left, and key personnel working on the project had found other jobs either inside or outside the district. When these staff stopped working on school finance activities, any long-term impact of the capacity building program was negated, and we do not know if the new leadership will retain school finance as a district priority.

Part IV: An Urban Educator's Handbook

The urban school finance problem, as it has been defined, has four dimensions. First, the cities have a resource base (fiscal capacity) that is insufficient to meet increasing educational costs. Second, education costs are greater in the cities due to the large number of students requiring special educational services (educational overburden) and to the higher prices paid

for all goods and services. Third, the far greater demand for noneducation services in cities places a disproportionately higher drain on the urban tax dollar than in nonurban areas (municipal overburden). Finally, state aid formulas are generally insensitive to these problems and therefore fail to compensate for the unique fiscal disadvantages of large urban school districts.

A handbook on urban school finance issues should (1) outline the dimensions of the fiscal capacity, educational overburden and municipal overburden problems; (2) provide basic information on how state-local school finance systems operate and show the reader how he or she can evaluate the impact of the state's school funding programs on his or her school district; (3) summarize current urban-oriented adjustments in state aid formulas; and (4) raise policy questions related to implementing urban provisions in state school finance systems.

The "state-of-the-art" paper on measuring fiscal capacity that was prepared for this project (Attachment F) provides an example of how one can define an urban finance issue for policymakers and set forth recommendations for changes in school finance formulas. A similar approach could be applied to the issue of educational overburden, drawing on recent work by Kakalik et al.,⁵ Moore, Walker and Holland,⁶ and McGuire.⁷

⁵James Kakalik et al. The Cost of Special Education. R-2858 ED (Santa Monica, Calif: Rand Corporation, 1981).

⁶Mary T. Moore, Lisa J. Walker and Richard P. Holland. Finetuning Special Education Finance: A Guide for State Policymakers. (Washington, D.C.: Education Policy Research Institute of Educational Testing Service, July 1982.)

⁷C. Kent McGuire. State and Federal Programs for Special Student Populations. Report No. F82-2. (Denver, Colo.: Education Finance Center, Education Commission of the States, April 1982.)

The handbook must be sensitive, however, to the different political and fiscal environments and state school finance structures in which urban school districts operate, as well as to the common core of problems facing them. A section on policy questions will alert the user to such issues as: (1) will your city (and/or other cities in your state) receive more aid under a particular urban-oriented adjustment? (This is largely a function of the relative fiscal capacity of the urban districts and the way in which the adjustment is structured.) (2) Are the data required to calculate the adjustment readily available? (3) Will the distribution of aid under the adjustment be politically acceptable?

In order to answer these questions, the policymaker must be familiar with the operation of his or her state's school finance formulas and with the techniques used to evaluate the outcomes of these formulas. A generalized handbook cannot train educators in the specifics of each state's formula, but information on the structure of the basic school finance formula types will aid in an understanding of how a particular formula operates. Materials of this sort can be found in Margaret Goertz's Plain Talk About School Finance, which was recently revised for N.I.E.

**A Guide to The Missouri
School Finance Formula**

by

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A GUIDE TO THE MISSOURI SCHOOL FINANCE FORMULA

Introduction

The total amount of money available to school districts is a sum of locally-raised revenues, state aid, federal aid and miscellaneous revenues. In Missouri, 9.5 percent of total education revenues came from federal aid in 1979-80, 37.2 percent from state aid and 53.3 percent from local sources.¹ The primary role of state aid in this resource pool is to compensate for differing abilities among districts to support education.

Locally-raised revenues are generally based on the wealth and tax-effort of the community.

Locally Raised Revenues for Schools = Tax Effort x Wealth

"Tax effort" is usually defined as the school tax rate and "wealth" as taxable property or property valuation.

This relationship between wealth and revenues makes it possible for a rich district to raise more revenue for education than a poor district even though both are applying the same tax rate. For example, a "wealthy" district with a property valuation of \$100,000 per pupil and a tax rate of 20 mills, (or 2 percent of valuation), could raise \$2,000 per pupil, ($.02 \times \$100,000 = \$2,000$); while a "poor" district with a valuation of \$25,000 per pupil and the same 20 mill tax rate could raise only \$500 per pupil, ($.02 \times \$25,000 = \$500$).

State aid to education can be introduced to overcome disparities in expenditures that are caused by variations in local wealth. This is the

¹National Education Association, Estimates of School Statistics, 1979-1980.

traditional definition of "equalization." This distribution of money for "equalization" usually takes place through a formula where state dollars are distributed in inverse proportion to local wealth. In other words, the lower the district wealth, the more state aid it receives. As a result, the combination of state aid and local revenues enables a poor district to spend more nearly at the same per pupil level as a rich one.

The subject of this booklet is how Missouri's education finance plan undertakes this equalization objective; how state aid is distributed to make up for the differences among districts in needs, demands, and abilities to pay. This presentation is predicated on the assumption that evaluating your state's plan for financing education requires a working knowledge of how it operates. Therefore, the major features of Missouri's equalization aid programs are outlined, including the step-by step calculation of a school district's state aid allocation. These steps, however, may not always follow the same order as those on the state aid entitlement sheet. The emphasis is on enhancing your understanding of why, as well as how, these formulas work in the way they do.

Missouri provides aid to school districts through a number of programs. The largest of these, the Basic Grant Program, accounted for 76.4 percent of total state aid to education in 1978-79.² Other aid programs include those for transportation, special education, vocational education, and textbooks. The Basic Grant Program consists of two formulas: the Minimum Guarantee Program and the Guaranteed Tax Base Add-on Program.

² Esther O. Tron, Public School Finance Programs, 1978-79.

Minimum Guarantee Program

Under the Minimum Guarantee portion of Missouri's state aid formula, each school district is guaranteed a basic amount of money for the cost of each pupil's education. This guaranteed amount is known as the Foundation Amount. Local school districts must contribute to this guaranteed amount. The local share is determined by levying a tax rate on a district's wealth. The amount raised by a district for the cost of each pupil's education from the state set tax rate is known as the Required Contribution. State Aid per pupil is the difference between the Foundation Amount and the district's Required Contribution. Thus,

$$\begin{array}{rcl} \text{State Aid} & = & \text{Foundation Amount} - \text{Required Contribution} \\ \text{Per Pupil} & & \text{Per Pupil} \quad \quad \text{Per Pupil} \end{array}$$

Foundation Amount

Missouri's education finance plan guarantees a fixed amount of dollars for each student's education called the Foundation Amount. This amount is intended to cover the basic cost of each student's education. The Foundation Amount established for Missouri's aid formula is 75 percent of the State Expenditure Factor. The State Expenditure Factor is the average current expenditure per pupil for the second preceding year. For 1979-80 aid calculations, the Foundation Amount was \$1,049, (75 percent of \$1,399). A district is expected to contribute to this guaranteed amount. Substituting in the general foundation formula above, State Aid per pupil is the difference between the state guaranteed \$1,049 and a district's Required Contribution. Thus,

$$\begin{array}{rcl} \text{State Aid} & = & \$1,049 - \text{Required Contribution} \\ \text{Per Pupil} & & \text{Per Pupil} \end{array}$$

Counting Pupils

For the purposes of distributing aid under the Minimum Guarantee Program, Missouri uses a pupil count known as Weighted Eligible Pupils. To compute the number of Eligible Pupils in a district, one takes the average of pupils in Membership and those in Average Daily Attendance (ADA). Membership is the average of the number of pupils enrolled in September and January (and who have attended one day or more of the preceding ten school days), while ADA is computed as total attendance days of students divided by the number of days in session.

In addition, pupils who are orphans or who live in families receiving Aid to Families with Dependent Children (AFDC) receive an extra weighting of 0.25. Table 1 shows how Weighted Eligible Pupils are calculated for a hypothetical school district.

Table 1

Calculation of Weighted Eligible Pupils

Pupil Count	Weighting	Number of Pupils	Weighted Eligible Pupils
Membership	0.50	400	200
Average Daily Attendance	0.50	350	175
AFDC and Orphans	0.25	100	25
District Weighted Eligible Pupils			400

Required Contribution

The next step in determining the amount of State Aid per pupil for a district is to calculate the district's Required Contribution. A

district's Required Contribution is a district's property valuation multiplied by a state determined tax rate, known as the Required Tax Rate. Thus,

$$\begin{array}{rcl} \text{Required} & = & \text{Property} \times \text{Required Tax} \\ \text{Contribution} & & \text{Valuation} \quad \text{Rate} \end{array}$$

Calculating a district's Required Contribution is a multi-step process in Missouri since the State uses a number of different wealth measures and applies different Required Tax Rates to them. In order to make the explanations more manageable, values will be expressed in per pupil terms.

Step 1: Calculate Total Assessed Valuation. In the first step, one sums the Equalized Assessed Valuation of a district and its Railroad and Utilities State-assessed Valuation. Appendix A gives more detail on how these valuations are computed.

Example:	Equalized Assessed Value/Pupil	\$28,500
	+ State Assessed RR & Util./Pupil	<u>1,500</u>
	= Total Assessed Valuation/Pupil	\$30,000

Step 2: Apply a Required Tax Rate to the Total Assessed Valuation.

Missouri requires each district to levy a required school tax rate to qualify for aid under the Minimum Guarantee Program. The Required Tax Rate is 57 percent of the state Pupil-weighted Levy for the second preceding year. The Pupil-weighted Levy is the average operating tax levy for all districts "weighted" by the number of pupils in each district. This average changes each year as districts change their operating levies. The Pupil-weighted Levy was \$2.97 in 1979-1980; the Required Tax Rate was \$1.69, (.57 x 2.97). This rate can be expressed as dollars per hundred dollars of valuation (e.g., \$1.69) or it can be expressed as 0.0169 per

dollar of valuation ($1.69 / 100 = 0.0169$). Remember, to determine a district's Required Contribution one multiplies the district's Total Assessed Valuation by its Required Tax Rate.

Example: $\$30,000 \times 0.0169 = \$507$ per pupil

Districts with higher valuations per pupil will have a larger Required Contribution than districts with less wealth. For example, Table 2 shows the Required Contribution per pupil for three school districts. District A with an adjusted valuation of \$10,000 per pupil must contribute \$169, whereas District C with a valuation of \$50,000 must contribute \$845.

Table 2

Required Contribution Per Pupil (with no income adjustment)

District	Per Pupil Total Assessed Value	Required Rate Tax	Required Contribution per Pupil
District A	\$ 10,000	0.0169	\$ 169
District B	\$ 30,000	0.0169	507
District C	\$ 50,000	0.0169	845

However, in Missouri, the Required Tax Rate is not applied uniformly in all districts. Instead, the Required Tax Rate is modified by the relative income of residents in each district.

Step 2A: Compute the district's Income Factor. Each district's Required Tax Rate is adjusted to reflect the relative income wealth of its residents. Income is measured as Adjusted Gross Income (AGI), as reported on the state income tax forms, divided by the number of returns filed. The Income Factor is computed as follows:

1. Divide the District Average AGI per Return by the State Average AGI per Return.
2. Add one (1) to this ratio.
3. Divide the result by two (2).

For example, assume that a district's average AGI per return is \$8,000 and the state average AGI per return is \$10,000. That district's Income Factor would be:

1. $\$8,000/\$10,000 = 0.80$
2. $1 + 0.80 = 1.80$
3. $1.80/2 = 0.90$

Thus, if a district has a below average income, its Income Factor will be less than 1. If the district has an above average income, its Income Factor will be greater than 1.

Step 2b: Apply the District Income Factor to its Required Tax Rate and Calculate the True Required Contribution. In this step, the Required Tax Rate is adjusted by each district's Income Factor as computed in Step 2a.

Example: $\$1.69 \times 0.90 = \$1.52$

We will call this adjusted rate the District Required Tax Rate. Those districts with below average incomes will have a District Required Tax Rate that is less than the Required Tax Rate of \$1.69. Those districts with above average incomes will have a rate higher than the Required Tax Rate. The impact of this adjustment on the Required Contribution is shown in Table 3.

Three hypothetical districts with the same Total Assessed Valuation per Pupil have different average AGI's per return. As a result, their District Required Tax Rates differ, and so do their Required Contributions.

Table 3

Required Contribution per Pupil with an Income
Adjustment to the Required Tax Rate

District	Per Pupil Total Assessed Valuation	Average AGI per Return	Income Factor	District Required Tax Rate	Required Contribution
District B-1	\$ 30,000	\$ 10,000	1.0	0.0169	\$ 507
District B-2	30,000	8,000	0.9	0.0152	\$ 456
District B-3	30,000	12,000	1.1	0.0186	\$ 558

Remember, without an income adjustment, a district with a valuation of \$30,000 per pupil would be required to contribute \$507 in local revenues under this aid program. District B-2 with below average income wealth need only contribute \$456, while District B-3 with above average income is required to contribute \$558.

Step 3: Calculate Required Contribution from other sources of revenues. Districts must also contribute 57 percent of their Intangible Tax Receipts (for school purposes) and Fines, Forfeitures and Escheats.

Example:	Intangible Tax Receipts/Pupil	\$ 12.
	+ Fines, Forfeitures, Escheats/Pupil	+ 2.
		<u>\$ 14.0</u>
	x 57 percent	= \$8

Step 4: Sum the District's Required Contributions. The district's total Required Contribution is the sum of the dollars raised from the adjusted Total Assessed Valuation and from the Intangible Tax Receipts, Fines, Forfeitures and Escheats.

Example:	Dollars raised from Total Assessed Val.	\$169/pupil
	+ Dollars raised from the other sources	<u>8/pupil</u>
	= Total District Required Contribution	\$177/pupil

State Aid

Now that you have seen how to determine the Required Contribution, you can determine State Aid. Remember,

$$\text{State Aid} = \$1,049 - \text{Required Contribution Per Pupil}$$

Recall that our example district with a valuation per pupil of \$30,000 and an average income (District B-1) had a Required Contribution of \$515 per pupil. Thus, State Aid for this district is:

$$\begin{aligned}\text{State Aid Per Pupil} &= \$1,049 - (\$507 + \$8) \\ &= \$ 534\end{aligned}$$

One purpose of the Missouri Minimum Guarantee Program is to lessen the disparity in the ability of districts to raise revenues. Therefore, low wealth districts receive more State Aid than high wealth districts. You have already seen in Table 2 that the Required Contribution increases as the valuation per pupil increases. Table 4A shows the State Aid per pupil for the same three districts. District A receives \$872 in State Aid whereas District C receives only \$196. Once a district's per pupil wealth exceeded \$62,000 it would not have been eligible for aid under this program in 1979-80 because its total Required Contribution would have equaled or exceeded the Foundation Amount. If the district had a below average income, however, it could have still qualified for aid with a slightly higher valuation.

Table 4A

State Aid

District	Property Valuation Per Pupil	Foundation Amount	Required Contribution Per Pupil			State Aid Per Pupil
			TAV	Other*	Total	
District A	\$ 10,000	\$ 1,049	\$ 169	\$ 8	\$ 177	\$ 872
District B	30,000	1,049	507	8	515	534
District C	50,000	1,049	845	8	853	196

*Includes required contribution from Intangible Tax Receipts, etc. It is assumed that all the hypothetical districts contribute the same \$8 per pupil.

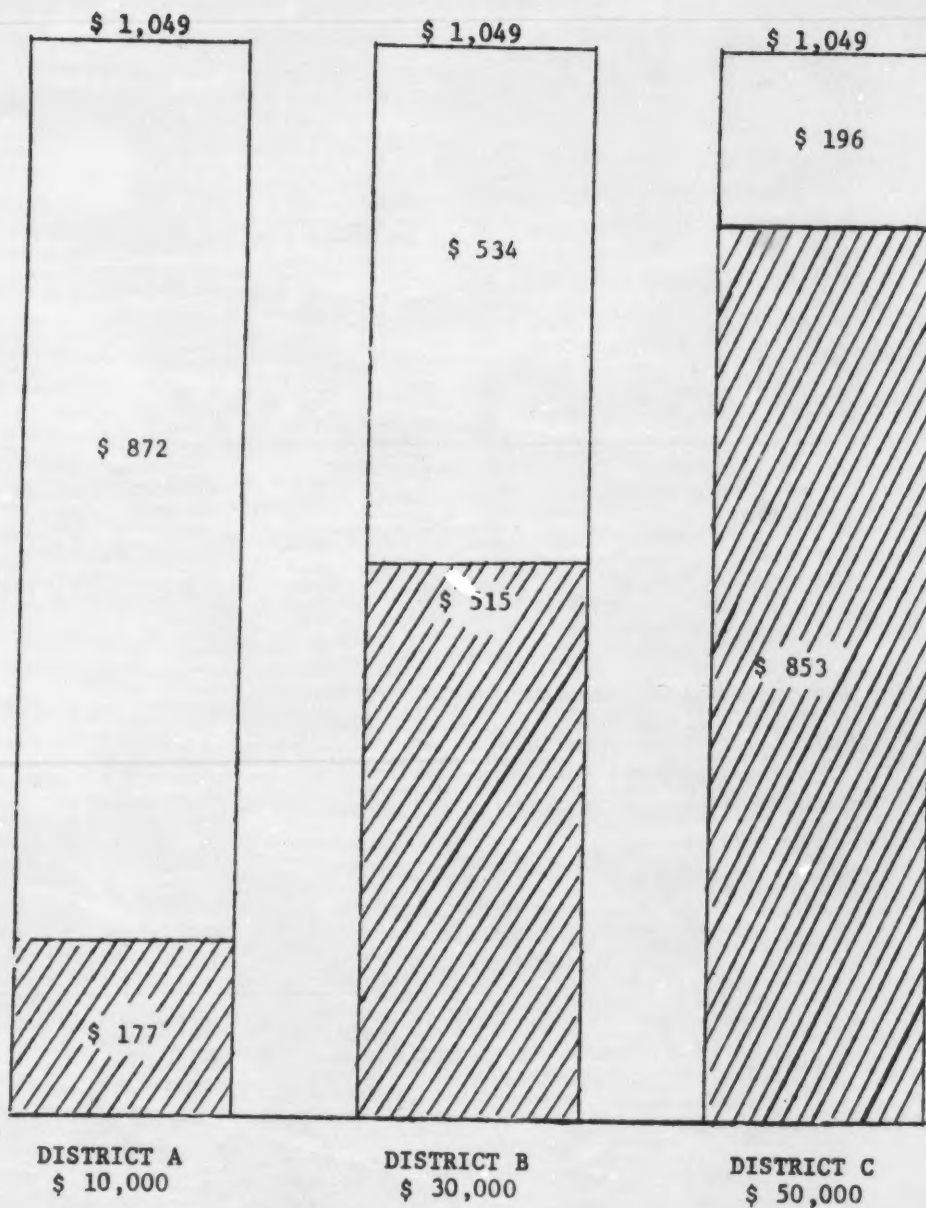
Figure 1 shows the Required Contribution and State Aid as components of the Foundation Amount for the three districts in Table 4A.

Note in Figure 1:

- o The property value per pupil is listed at the bottom of each bar.
- o The Foundation Amount is displayed at the top of each bar.
- o The Required Contribution is the shaded area at the bottom of each bar.
- o State Aid per pupil is represented by the white area. State Aid makes up the difference between the Foundation Amount and Required Contribution.
- o It is assumed that all three districts have average incomes.

Figure 1

Required Contribution and State Aid as Components of
Foundation Amount



= Required Contribution



= State Aid

Table 4B shows State Aid allocated to the three districts from Table 3. Although all three districts have identical per pupil valuations, the variation in average AGI per return results in nearly a \$100 difference in state aid payments between Districts B-2 (with below average income) and B-3 (with above average income).

Table 4B
State Aid

District	Property Valuation Per Pupil	Foundation Amount	Required Contribution Per Pupil			State Aid Per Pupil
			TAV	Other	Total	
District B-1	\$ 30,000	\$ 1,049	\$ 169	\$ 8	\$ 515	\$ 534
District B-2	30,000	1,049	456	8	464	585
District B-3	30,000	1,049	558	8	566	483

To calculate a district's entitlement under the Minimum Guarantee Program, that is, the aggregate amount of aid due to it, one must multiply State Aid per pupil by the district's number of weighted eligible pupils.

Example: For District B-1

$$\begin{aligned} \text{District Foundation Entitlement} &= \$534 \times 400 \text{ Weighted Eligible Pupils} \\ &= \$213,600 \end{aligned}$$

Guaranteed Tax Base Add-on

The Minimum Guarantee Program allows a participating district to tax itself at a rate above the District Required Tax Rate. Known as a "local leeway," this add-on has always been an integral part of Minimum Foundation programs. The supporters of the original foundation plan

felt that local option would encourage adaptability and change within the educational system. However, under a foundation program a tax rate higher than the required tax rate will not cause an increase in state aid. Therefore the ability to raise revenues above the foundation level varies with the wealth of the district.

Let us assume that our sample Districts A, B and C choose to tax themselves at a rate of \$2.69: \$1.69 for the Minimum Guarantee Program plus \$1.00 local leeway. For the additional \$1.00 tax rate, District A can raise \$100 in local revenue ($\$10,000 \times .01$), District B can raise \$300 from local taxes and District C, \$500 of additional revenue. Table 5 shows the result of local leeway.

Table 5
Local Leeway

<u>Minimum Guarantee Program</u>				
<u>District</u>	<u>Valuation</u>	<u>Required Local Contribution</u>	<u>State Aid</u>	<u>Minimum Program</u>
A	\$ 10,000	\$ 169 + 8	\$ 872	\$ 1,049
B	30,000	507 + 8	534	1,049
C	50,000	845 + 8	196	1,049

<u>Minimum Guarantee Program Plus Local Leeway</u>				
<u>District</u>	<u>Property Valuation</u>	<u>Minimum Program</u>	<u>Yield \$ 1.00 Local Leeway</u>	<u>Total Revenues</u>
A	\$ 10,000	\$ 1,049	\$ 100	\$ 1,149
B	30,000	1,049	300	1,349
C	50,000	1,049	500	1,549

With the same tax effort, a tax rate of \$2.69, District C can now spend \$1,549 whereas District A can only spend \$1,149. The impact of state aid has become less equalizing with the addition of "local leeway."

In an attempt to equalize this "local leeway," Missouri has adopted a Guaranteed Tax Base Add-on provision as part of its operating aid formula. Unlike the Minimum Guarantee Program, the Guaranteed Tax Base (GTB) Program provides districts with an incentive to increase tax effort since aid increases proportionately for every increase in the tax rate. We will first discuss how a Guaranteed Tax Base Plan works in general, and then look at its application as an add-on provision in Missouri's formula.

Guaranteed Tax-Base Formula

While the Minimum Guarantee Program emphasizes the state guaranteed spending level, the Guaranteed Tax Base Plan emphasizes the state-determined tax base and the district's local tax effort. First, the Guaranteed Tax Base Plan is designed to assure that every district in the state can act as though it has a tax base the same as some state set level. Under a guaranteed tax base program, the local school district chooses its tax rate for education. This tax rate is then applied to the guaranteed tax base and the actual tax base for the school district. State aid is the difference between what would be raised with the guaranteed tax base and what can actually be raised from the local tax base. The greater the difference between actual and guaranteed wealth, the larger the amount of state aid. The Guaranteed Tax Base formula is:

$$\text{State Aid} = \left(\frac{\text{Guaranteed Tax Base}}{\text{Local Tax Base}} \times \text{Local Tax Rate} \right) - \left(\frac{\text{Actual Tax Base}}{\text{Local Tax Base}} \times \text{Local Tax Rate} \right)$$

Let us assume that a state guarantees a tax base of \$50,000 per pupil. Let us also assume that District A with its per pupil valuation of \$10,000 and District B with its property valuation of \$30,000 pupil each have a local tax rate of 10 mills, or 1 percent. Table 6 shows the state aid for these two districts under a pure GTB formula.

Table 6

Guaranteed Tax Base

District	Guaranteed Tax Base	Local Tax Base	Tax Rate	Guaranteed Revenues	Local Revenues	State Aid
A	\$ 50,000	\$ 10,000	.01	\$ 500	\$ 100	\$ 400
B	50,000	30,000	.01	500	300	200

Since each district has the same tax rate of 1 percent, each is guaranteed revenues of $\$50,000 \times .01$, or \$500 per pupil. District A raises \$100 from its local tax base, $(\$10,000 \times .01 = \$100)$. Thus, District A receives $\$500 - \$100$, or \$400 in state aid. District B with a larger tax base receives only \$200 in state aid.

Let us assume that each district doubles its tax rate to 20 mills or 2 percent. Each district now has a revenue guarantee of $\$50,000 \times .02$, or \$1,000. District A raises $\$10,000 \times .02$, or \$200, in local revenues and receives \$800 in state aid $(\$1,000 - \$200)$. District B raises \$600 in local revenues $(\$30,000 \times .02)$ and receives $\$1,000 - 600$, or \$400 of state aid.

Criteria for Participating in GTB Add-on Program

Not all districts that receive aid under the Minimum Guarantee Program are eligible for aid under the GTB Add-on Program. In order to participate in this second aid program, school districts must meet two criteria.

- o Their Total Assessed Valuation per Eligible Pupil must be less than the state-established Guaranteed Tax Base level.
- o Their Equalized Operating Tax Levy must be greater than their District Required Tax Rate for the Minimum Guarantee program (i.e., they must spend more than the Foundation Amount).

Table 7

Criteria for Participating in GTB Add-on

	State- established GTB (1979-80)	District Valuation/ Eligible Pupil	District Required Tax Rate	District Equalized Operating Tax levy	Can Partici- pate?
District D	\$ 43,726	\$ 10,000	\$ 1.69	\$ 1.69	no
District E	43,726	30,000	1.86	2.00	yes
District F	43,726	50,000	1.92	2.50	no

NOTE:

- o Each year the districts are ranked from lowest to highest according to the amount of equalized assessed valuation per eligible pupil.
- o The Guaranteed Tax Base for 1979-80 was the amount of equalized valuation per eligible pupil of the school district in which the eighty-seventh percentile (87%) of the aggregate number of eligible pupils fell during the preceding year. For each year thereafter, through 1982-1983, the percentile level used to determine the amount of the guaranteed tax base will be increased one percentile to a maximum of the 90th percentile.
- o When the state computes Property Valuation per Pupil for the GTB Add-on, it does not include the extra weightings for AFDC students and orphans. Table 8 shows the impact of this change on districts with high concentrations of these types of students.

Table 8

District	Total Assessed Valuation	Weighted Eligible Pupils	Eligible Pupils	Valuation per Weighted Pupil	Valuation per Eligible Pupil
District B	\$12,000,000	400	375	\$ 30,000	\$ 32,000
District X	17,000,000	410	380	41,463	44,736

- o The use of Eligible Pupils without the extra weightings can make a district look relatively wealthier for purposes of computing GTB Add-on aid. In the case of District B, the district still qualifies for aid, but will not receive as many dollars. In the case of District X, when an Eligible Pupil count is used it is

too wealthy to qualify for add-on aid. When a weighted pupil count is used, it has a valuation which is less than the GTB level.

Calculating GTB Add-on Aid

Four steps are involved in computing a district's entitlement under Missouri's GTB Add-on Program.

Step 1: Calculate the difference between the District's Required Tax Rate and its Equalized Operating Levy.

Missouri equalizes revenues raised by a district's first \$1.69 of operating school levy (as adjusted by the district's income factor) through the Minimum Guarantee Program. The GTB Add-on program provides equalization aid for the remainder of the district's levy.

Example: Assume that District B has an Operating Levy of \$2.69 and a District Required Tax Rate of \$1.69. The Operating Levy applicable to the GTB Add-on is \$1.00.

$$\$2.69 - \$1.69 = \$1.00$$

Step 2: Apply this tax rate differential to the Guaranteed Tax Base.

The GTB program allows a district to behave as though it had a valuation equal to the Guaranteed Tax Base. Thus, the extra \$1.00 in tax effort will guarantee all eligible districts an additional \$437.26 in combined state and local revenues.

Example: \$1.00 per hundred is the same as \$0.01 per dollar of valuation. Therefore,

$$\$43,726 \times 0.01 = \$437.26$$

Step 3: Calculate the District's Contribution. As in the Minimum Guarantee Program, the district must contribute some of its revenues to this add-on. The district contribution is calculated by applying the

district's tax rate differential to the district's Total Assessed Valuation per Eligible Pupil.

Example: District B's Valuation per Eligible Pupil is \$32,000 (See Table 8).

$$\text{\$ } 32,000 \times .01 = \text{\$ } 320$$

District B must contribute \$320 toward the \$437.26 guaranteed by the state under the GTB Add-on.

Step 4: Determine State Aid. Remember, State Aid is the difference between the Guaranteed Amount and the District's contribution. Therefore, in this example,

$$\begin{aligned} \text{State Aid} &= \$437.26 - \$320.00 \\ &= \$117.26. \end{aligned}$$

To calculate the district's GTB Add-on entitlement, multiply its per pupil State Aid times its Eligible Pupil Count.

$$\text{Example: } \$117.26 \times 375 = \$43,972.50$$

Remember, although District B has 400 Weighted Eligible Pupils, it has only 375 Eligible Pupils.

Under a GTB-type formula, districts with similar wealth but different operating tax rates will be guaranteed different levels of revenues and receive different amounts of state aid.

Table 9

State Aid Under GTB Add-on

District	Property Valuation per Pupil	District Operating Levy for GTB Add-on	Guaranteed Revenues	District Contribution	State Aid
District B-1	\$ 32,000	0.50	\$ 218.63	\$ 160.00	\$ 58.63
District B-2	32,000	1.00	437.26	320.00	117.26
District B-3	32,000	2.00	874.52	640.00	234.52

District B-1, with an extra tax effort of \$0.50 is guaranteed an additional \$218.63 in education revenues and receives \$58.63 in additional aid;

District B-3 with an extra tax effort four times as great, \$2.00, is guaranteed an additional \$874.52 in revenues and receives \$234.52 in additional aid.

Total District Entitlement

To determine the district's total entitlement, one must add the foundation entitlement and GTB entitlement together.

Example:

$$\begin{aligned} & \$ 213,600.00 \quad + \$ 43,972.50 \\ & \text{(Foundation entitlement) + (GTB Add-on entitlement)} \\ & = \$ 257,572.50 \quad \text{(total entitlement)} \end{aligned}$$

One cannot add together the per pupil entitlements since Minimum Guarantee Aid is calculated on a weighted pupil count and GTB Add-on aid is computed using an unweighted count.

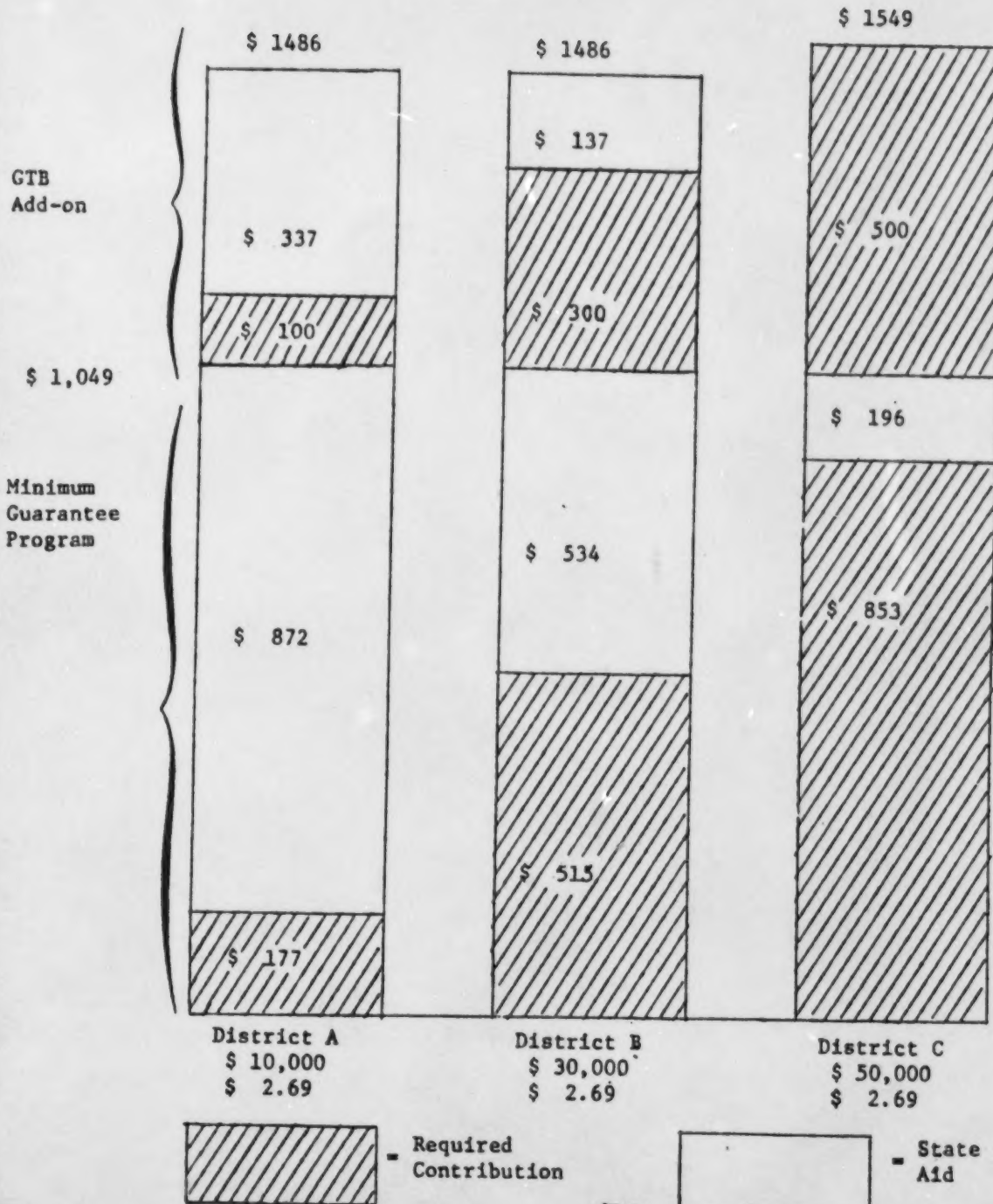
Figure 2 illustrates the impact of the two equalization formulas on three districts with similar "local leeway," but of different wealth.

Note in Figure 2:

- o The property value per pupil is listed at the bottom of each bar.
- o Each district levies a total operating tax rate of \$2.69, \$1.00 over the required rate.
- o All three districts are guaranteed \$1,049 under the Minimum Guarantee program through a combination of local revenues (shaded area) and state aid (white area).
- o Districts A and B are guaranteed an additional \$437 in state and local revenues through the GTB Add-on Program, for a total of \$1486.
- o District C is too wealthy to "participate" in the GTB Add-on Program. It can raise \$500, or more than the guaranteed \$437, through its \$1.00 "local leeway" tax rate. Therefore, District C receives \$1549 for a \$2.69 total operating rate (\$1049 + \$500).

Figure 2

Impact of GTB Add-on with
"Local Leeway" of \$1.00



- o District A receives the most state aid, \$1209, and District C receives the least, \$196.

Figure 3 illustrates the combined impact of the Minimum Guarantee Program and the GTB Add-on Program on three districts of similar wealth, but with different total operating levies. District B-1 has a "local leeway" of \$0.50, District B-2 of \$1.00 and District B-3 of \$1.50.

Note in Figure 3:

- o All three districts are guaranteed \$1049 in revenues under the Minimum Guarantee Program. Each contributes \$515 in local revenues and receives \$534 in state aid.
- o Under the GTB Add-on, District B-1 is guaranteed an additional \$218, for a total of \$1267, while District B-3 is guaranteed an additional \$655, for a total of \$1704 in revenues.
- o District B-3 must raise an additional \$450 in local revenues, while District B-1 must contribute an additional \$150.

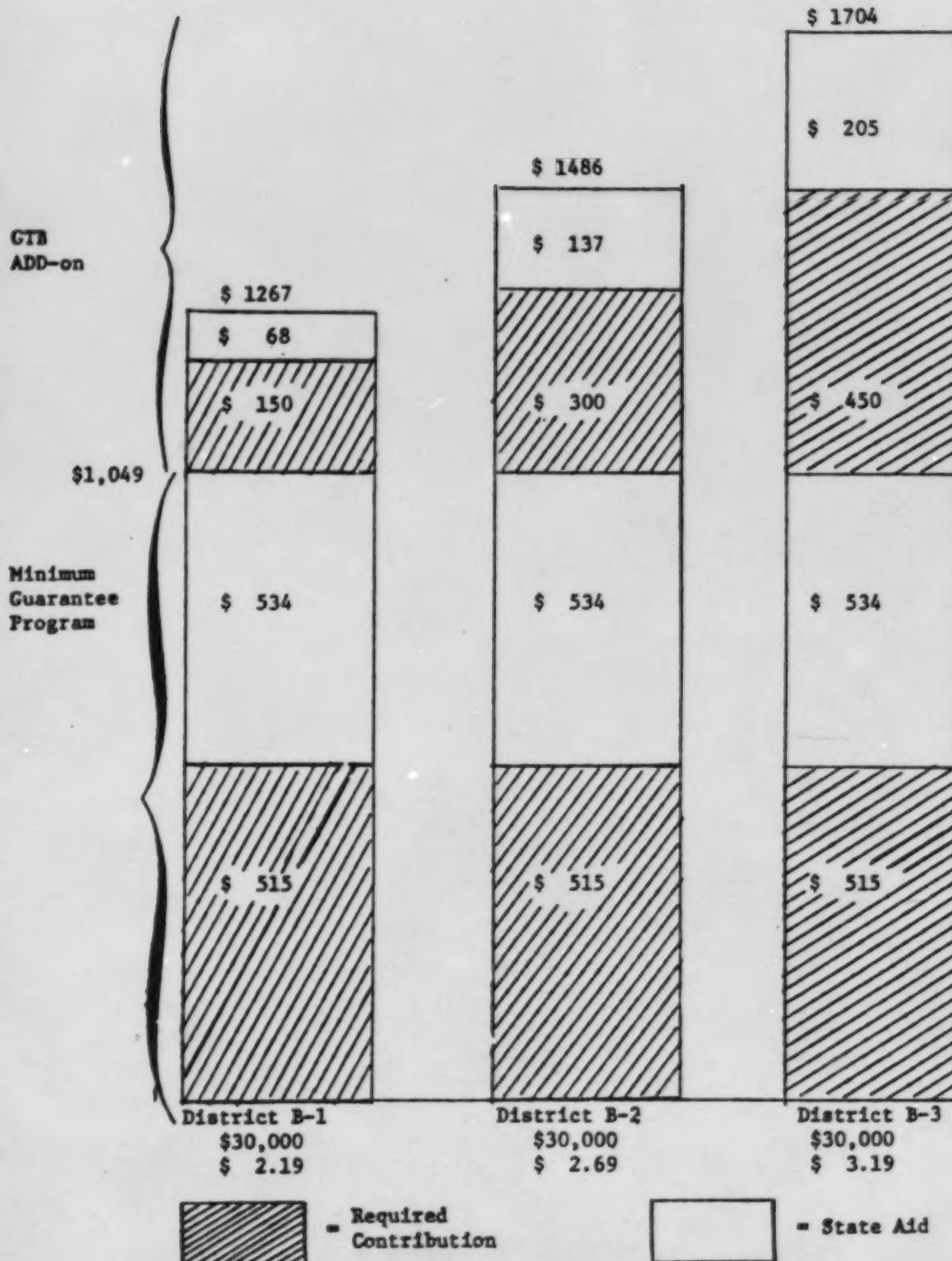
Other Formula Provisions

The state aid computed under the Minimum Guarantee and GTB Add-on provisions are not necessarily the aid amounts that will be paid to the districts. In certain situations, a district will receive less than its entitlement; in other situations, a district can receive more.

A distinction should be made between the amounts allocated to districts under the two distribution formulas we have studied -- Minimum Guarantee Program and GTB Add-on -- and the appropriation by the General Assembly of the specific amount of money available to be distributed under these formulas. Very often, the total amount of aid that districts are entitled to under the distribution formula exceeds the money available from the state. States use different mechanisms for reconciling disparities between these two amounts. In Missouri, this approach is called the Limited Apportionment.

Figure 3

Impact of GTB Add-on Districts of
Equal Wealth, Differential Tax Rates



Limited Apportionment

Under Limited Apportionment, no district can receive an increase in per pupil state aid which is more than 25 percent of its previous year's apportionment. The Limited Apportionment is calculated in the following way.

Step 1: The state computes the District's Apportionment per Eligible Pupil for the previous year.

$$\frac{\text{District Apportionment (Previous Year)}}{\text{Eligible Pupils (Previous Year)}}$$

Step 2: The district's Entitlement for the current year is also divided by last year's Eligible Pupil count.

$$\frac{\text{District Entitlement (Current Year)}}{\text{Eligible Pupils (Previous Year)}}$$

For example, District B's per pupil entitlement for this year would be

$$\frac{\$ 257,572.50}{375} = \$ 686.86$$

Step 3: The state compares this year's and last year's apportionments.

Let us assume that District B's apportionment for the previous year was \$600 per Eligible pupil. The difference is \$86.86

$$\$ 686.86 - \$ 600.00 = \$ 86.86 .$$

Step 4: The district will be granted only 25 percent of this increase, or \$ 21.72 (86.86 X 0.25). Therefore, District B's Limited Apportionment is:

$$\$ 600 + 21.72 = \$ 621.72.$$

This amount is \$65 per pupil less than its calculated entitlement of \$686.86.

When all of these steps are combined, the formula used to calculate Limited Apportionment looks like:

$$\left[\left(\frac{\text{District Apportionment}}{\text{E.P. (Prev. Yr.)}} - \frac{\text{Apportionment (Prev. Yr.)}}{\text{E.P. (Prev. Yr.)}} \right) \times 25\% \right] + \left[\frac{\text{Apportionment (Prev. Yr.)}}{\text{E.P. (Prev. Yr.)}} \right] \times \text{Eligible Pupils}$$

Hold Harmless

Some districts would be entitled under these formulas to a smaller district apportionment than they received in 1976-77. These districts receive a reduction of 20 percent of the difference between the district entitlement per eligible pupil and its entitlement per pupil for the 1976-77 school year. Every district was guaranteed a minimum of \$287 per eligible pupil in aid in 1979-80. This minimum base amount is adjusted annually to reflect the percent of change in appropriations for the school foundation program. In 1978-79, 32 districts received aid under the hold-harmless provision.

APPENDIX A

Computing Equalized Assessed Valuation

Equalized property valuation differs from assessed property value in that it attempts to eliminate differences in local assessment practices across jurisdictions. Missouri law requires that all assessed valuation used in the Minimum Guarantee and GTB Add-on Programs be equalized to 33-1/3 percent of true value.

To bring all of the counties' actual assessment ratios up to 33-1/3 percent, the State Tax Commission samples properties in each county and St. Louis and establishes a realistic ratio of actual property values to locally-assessed value. This ratio is called the effective ratio. Equalized Assessed Valuation is then determined by multiplying the valuation as assessed by each county by .333 and dividing the product by the effective ratio for the county.

For example, Jackson County has an assessment ratio of 21.5 percent, lower than the state-mandated ratio of 33.3 percent. Therefore, its equalized assessed valuation will be:

$$\begin{array}{rcl} \text{Equalized Assessed} & = & \text{Assessed} \times \frac{0.333}{0.215} \\ \text{Valuation} & & \text{Valuation} \end{array}$$

Operating tax rates are also adjusted to reflect differences in assessment ratios for purposes of calculating state aid.

DISSEMINATION OF SCHOOL FINANCE SERVICES
IN URBAN SCHOOL DISTRICTS
Saint Louis, Missouri

May 21, 1981

A G E N D A

Robert E. Wentz, Superintendent of Schools
Saint Louis Public School District

9:00 a.m. - 9:10 a.m.

Greetings, Introductions, Back-
ground of School Finance Study

Margaret E. Goertz, Policy Research
Scientist - Education Policy Research
Institute

Training Session on Missouri
School Finance

9:10 a.m. - 9:30 a.m.

Introduction

9:30 a.m. - 10:15 a.m.

Concepts of Equity in School Finance

10:15 a.m. - 10:30 a.m.

Break

10:30 a.m. - 12:00 Noon

The Missouri School Finance Formula

12:00 Noon - 1:00 p.m.

Lunch

1:00 p.m. - 2:00 p.m.

The Missouri School Finance Formula
(continued)

2:00 p.m. - 3:30 p.m.

Evaluating Missouri's School Finance
System and Discussion of Alternative
Formulas



Kansas City Public Schools

The School District of Kansas City, Missouri
1211 MCGEE STREET, KANSAS CITY, MISSOURI 64106, Phone 816/221-7565

Superintendent
ROBERT R. WHEELER

BOARD OF DIRECTORS

EDWARD W. SCAGGS, President
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A. H. KILPATRICK
KAREN J. LEWIS
CARL W. STRUBY

HENRY A. HAMANN, Secretary

CONFERENCE ON STATE SCHOOL FINANCE May 22, 1981

MORNING SESSION: Board Room of BMA Tower - 19th Floor

9:30 a.m. - Coffee

10:00 a.m. - Opening

-- Mr. Steve Hurst, Conference Moderator

The Kansas City School District: Comments

-- Dr. Robert R. Wheeler, Superintendent

The Kansas City School District: Financial
Needs and Revenue Projections

-- Dr. Donald Martin, Director, Business Division

Missouri's Foundation Formula

-- Dr. Margaret Goertz, Educational Policy Research
Institute, Educational Testing Service, Princeton,
New Jersey

Pending Legislation

-- Dr. Edward W. Scaggs, President, School Board
of Kansas City, Missouri

NOON: BUFFET LUNCH - Skyline Room - 19th Floor

AFTERNOON SESSION: Board Room of BMA Tower - 19th Floor

Legislative Funding Alternatives

-- Dr. Margaret Goertz

**Adequate Funding of The Kansas City School District
How do we get it?**

-- Panel consisting of Mr. Fletcher Daniels,
Chairman, Legislative Committee, Board of
Directors, Kansas City School District,
Dr. Margaret Goertz, Dr. Donald Martin,
Dr. Robert Wheeler

-- Comments by Conference Participants

ATTACHMENT C

SCHOOL FINANCE EQUALIZATION MANAGEMENT SYSTEM

LAYOUT	PROJECT/NO	DATE	PAGE	PROGRAMMER	STATE
General	503-25	8/81	1		Missouri
DATA SET NAME			APPLICATION		RECORD NAME
MO. GENDATA			General Data		

START	LENGTH	FIELD NUMBER	DATA INT.	FIELD NAME	COMMENTS
1	2	-	C1	Record Code 'DD'	
3	1	-	9	Delete Indicator	('1' indicates delete)
4	3	-		Filler	
7	4		9(4)	Relative record number	
11	30			Indicative fields	
11	1	401	C1	SAF-HH-Base	SAF #496
12	1	402	C1	SAF-HH-Dist	#497
13	1	403	C1	SAF-Type	#499
14	1	404	C1	SAF-Class	#500
15	1	405	C1	County Selector	0 = St. Louis (115) 1 = Jackson County (048) 2 = All Others
16	1	406	C1		
17	1	407	C1		
18	1	408	C1		
19	1	409	C1		
20	1	410	C1		
21	2	411	C2		
23	2	412	C2		
25	2	413	C2		
27	2	414	C2		
29	2	415	C2		
31	8	-	C8	District code	
39	2	-		Filler	
41	30	-	C30	District name	
71	30	-		Filler	

SCHOOL FINANCE EQUALIZATION MANAGEMENT SYSTEM

LAYOUT	PROJECT/USER	DATE	PAGE	PROGRAMMER	STATE
General		8/81	2		Missouri
DATA SET NAME MO.GENDATA		APPLICATION Enrollment Fields 101-125			RECORD NAME District

START	LENGTH	FIELD NUMBER	DATA INT.	FIELD NAME	COMMENTS
101	8	101	9(6)V99	ADA 1979-80	SAF #5
109	8	102	9(6)V99	ADA 1978-89	#6
117	8	103	9(6)V99	MEMB 1979-80	#7
125	8	104	9(6)V99	MEMB 1978-79	#8
133	8	105	9(6)V99	Elig. Pupils 1976-77	#9
141	8	106	9(6)V99	E.P. Payment 1980-81 Aid	#10
149	8	107	9(6)V99	E.P. Est. 1980-81 Aid	#11
157	8	108	9(6)V99	Elig. Pupils 1979-80	#12
165	8	109	9(6)V99	Elig. Pupils 1978-89	#13
173	8	110	9(6)V99	AFDC 1979-80	#14
181	8	111	9(6)V99	Orphans 1979-80	#15
189	8	112	9(6)V99		
197	8	113	9(6)V99		
205	8	114	9(6)V99		
213	8	115	9(6)V99		
221	8	116	9(6)V99		
229	8	117	9(6)V99		
237	8	118	9(6)V99		
245	8	119	9(6)V99		
253	8	120	9(6)V99	Eq. Operating Levy 1979-80	SAF # 3
261	8	121	9(6)V99	Teacher Levy 1979-80	#46
269	8	122	9(6)V99	Incid. Levy 1979-80	#47
277	8	123	9(6)V99	Bldg. Levy 1979-80	#48
285	8	124	9(6)V99	Debt Levy 1979-80	#49
293	8	125	9(6)V99	Teacher Levy 1980=81	#51

SCHOOL FINANCE EQUALIZATION MANAGEMENT SYSTEM

LAYOUT General	503-25	8/81	PAGE 3	RECORD NUMBER	STATE Missouri
DATA SET NAME MO.GENDATA		APPLICATION Enrollment Fields 126-136		RECORD NAME	

[illegible]

SCHOOL FINANCE EQUALIZATION MANAGEMENT SYSTEM

LAYOUT	503-25	DATE	8/81	PAGE	4	PROGRAMMER	STATE
General							Missouri
DATA SET NAME		APPLICATION			RECORD NAME		
MO.GENDATA		Financial Fields 201-225			District		

START	LENGTH	FIELD NUMBER	DATA FMT.	FIELD NAME	COMMENTS
401	10	201	9(10)	Equalized Val. 1979	SAF #28
411	10	202	9(10)	Assessed Val. 1979	#56
421	10	203	9(10)	Fine-Forf-Esch 1979	#16
431	10	204	9(10)	Int-Tax-School 1979	#17
441	10	205	9(10)	Dist. Income Factor 80-81aid) (*14,902) (*0001)	#20
451	10	206	9(10)	Tot. Rev. Deducs. aid)	#37
461	10	207	9(10)	Fdn. Entitlement 1980-81	#38
471	10	208	9(10)	GTB Entitlement 1980-81	#39
481	10	209	9(10)	Dist. Entitlement 1980-81	#40
491	10	210	9(10)	Actual Entitlement 1980-81	#41
501	10	211	9(10)	1976-77 Apportionment	#29
511	10	212	9(10)	1979-80 Apportionment	#30
521	10	213	9(10)	GTB Tax Rate aid) (*000001)	#23
531	10	214	9(10)	Transportation Aid 1980-81	#42
541	10	215	9(10)	Excep. Pupil Aid 1980-81	#43
551	10	216	9(10)	Hand. Census Aid 1980-81	#44
561	10	217	9(10)	Gifted Aid 1980-81	#60
571	10	218	9(10)	Excep. Pupil Aid-Category Remedial Reading 1980-81	EPD #59
581	10	219	9(10)	Sev. Handicapped	#60
591	10	220	9(10)	Early Child. Spec. Educ.	#61
601	10	221	9(10)	Specific LD	#62
611	10	222	9(10)	Rem. Speech Language	#63
621	10	223	9(10)	Speech and Language Disorder	#64
631	10	224	9(10)	Hard of Hearing	#65
641	10	225	9(10)	Deaf	#66

SCHOOL FINANCE EQUALIZATION MANAGEMENT SYSTEM

LAYOUT	PROJECT/JOB	DATE	PAGE	PREPARED BY	STATE
General	503/25	8/81	5		Missouri
DATA SET NAME		APPLICATION		RECORD NAME	
MO.GENDATA		Financial Fields 226-250		District	

START	LENGTH	FIELD NUMBER	DATA FMT.	FIELD NAME	COMMENTS
651	10	226	9(10)	Exceptional Pupil Aid--Category Mental Retardation	EPD #67
661	10	227	9(10)	Ortho. Handicapped	#68
671	10	228	9(10)	Partially Sighted	#69
681	10	229	9(10)	Blind	#70
691	10	230	9(10)	Behavioral Disorders	#71
701	10	231	9(10)	Prof. Personnel	#72
711	10	232	9(10)	Adjustment Money	#74
721	10	233	9(10)	Exceptional Pupil--Teachers Rem. Reading	(*01) #02
731	10	234	9(10)	Sev. Handicapped	(*01) #06
741	10	235	9(10)	Early Child. Spec. Educ	(*01) #10
751	10	236	9(10)	Specific LD	(*01) #14
761	10	237	9(10)	Remedial Speech/ Language	(*01) #18
771	10	238	9(10)	Speech/Lang. Disorders	(*01) #22
781	10	239	9(10)	Hard of Hearing	(*01) #26
791	10	240	9(10)	Deaf	(*01) #30
801	10	241	9(10)	Mental Retardation	(*01) #34
811	10	242	9(10)	Ortho. Handicapped	(*01) #38
821	10	243	9(10)	Partially Sighted	(*01) #42
831	10	244	9(10)	Blind	(*01) #46
841	10	245	9(10)	Behavioral Disorders	(*01) #50
851	10	246	9(10)	Professional Personnel	(*01) #54
861	10	247	9(10)	Except. Pupils Programs Total Number of Aides	(*01) (Sum of #8,12,16,20, 24,28,32,36,40,44,48, and 52)
871	10	248	9(10)		
881	10	249	9(10)		
891	10	250	9(10)	RR-Utils Assessed Val. 1979	SAF #62

ALLOCATION TITLE : MD FORMULA W/ LIMITED APPOINT AND S-H
 REPORT TITLE : AID ALLOCATION DETAIL REPORT

ID : MOTEST02

DISTRICT CODE: 048078

DISTRICT NAME: 33 KANSAS CITY

AID PROJECTIONS:

	PER STUDENT UNIT AMOUNTS		DISTRICT TOTAL AMOUNTS	
	PROJECTIONS	BASE YEAR	PROJECTIONS	BASE YEAR
DISTRICT TYPE 1--S W/ AID GAINS				
NUMBER OF STUDENT UNITS			39218.93	
WEALTH BASE	47017.		1843960818.	
WEALTH TIER 2 (NUMERATOR)	50459.		1843327248.	
WEALTH TIER 2 (DENOMINATOR)			36531.	
AIDABLE EXPENDITURE	1519.		59560528.	
MINIMUM AID	0.		0.	
EQUALIZATION AID	373.		14632692.	
TOTAL FORMULA AID	373.	346.	14632692.	13575229.
CATEGORICAL PROGRAMS:				
TRANSP. AID	83.		3236866.	
EXC. PUPIL AID	83.		3269132.	
TOTAL CATEGORICAL AID	166.		6505998.	
TOTAL AID	539.		21138690.	

ALLOCATION TITLE: NO FORMULA W/ LIMITED APPORT AND S-H
 REPORT TITLE: AID ALLOCATION DETAIL REPORT

ID: NOTEST02

DISTRICT CODE: 096095

DISTRICT NAME: PARKWAY

AID PROJECTIONS:

	PER STUDENT UNIT AMOUNTS		DISTRICT TOTAL AMOUNTS	
	PROJECTIONS	BASE YEAR	PROJECTIONS	BASE YEAR
DISTRICT TYPE 2--S W/ AID LOSES 0				
NUMBER OF STUDENT UNITS			22859.34	
FORMULA SAVE HARM LEVEL	0.		321.	
WEALTH BASE	59957.		1370580772.	
WEALTH TIER 2 (NUMERATOR)	45033.		1028607270.	
WEALTH TIER 2 (DENOMINATOR)			22841.	
AIDABLE EXPENDITURE	1762.		40283276.	
MINIMUM AID	46.		1051973.	
EQUALIZATION AID	249.		5686148.	
TOTAL FORMULA AID	295.	310.	6738122.	7087189.
FORMULA SAVE HARM AID	0.		0.	
CATEGORICAL PROGRAMS:				
TRANSP. AID	40.		912678.	
EXC. PUPIL AID	6.		139525.	
TOTAL CATEGORICAL AID	46.		1052203.	
TOTAL AID	341.		7790325.	

ALLOCATION TITLE: NO FORMULA W/ LIMITED APPORT AND S-H
 REPORT TITLE: AID ALLOCATION DETAIL REPORT

ID: NOTEST02

DISTRICT CODE: 115115

DISTRICT NAME: ST. LOUIS CITY

AID PROJECTIONS:

	PER STUDENT UNIT AMOUNTS		DISTRICT TOTAL AMOUNTS	
	PROJECTIONS	BASE YEAR	PROJECTIONS	BASE YEAR
DISTRICT TYPE 1--S W/ AID GAINS NUMBER OF STUDENT UNITS			68182.86	
WEALTH BASE	25051.		1708027954.	
WEALTH TIER 2 (NUMERATOR)	28931.		1776484766.	
WEALTH TIER 2 (DENOMINATOR)			61404.	
AIDABLE EXPENDITURE	1883.		128355760.	
MINIMUM AID	0.		0.	
EQUALIZATION AID	813.		55443943.	
TOTAL FORMULA AID	813.	730.	55443943.	49784127.
CATEGORICAL PROGRAMS:				
TRANSP. AID	28.		1933063.	
EXC. PUPIL AID	83.		5672512.	
TOTAL CATEGORICAL AID	112.		7605575.	
TOTAL AID	925.		63049518.	

ALLOCATION TITLE: NO FORMULA W/ LIMITED APPORT AND S-M
REPORT TITLE: AID ALLOCATION STATE SUMMARY REPORT

ID: MOTEST02

SUMMARY COUNTS

NUMBER:

TOTAL DISTRICTS	549
DISTRICTS WITH NO PUPILS	0
DISTRICTS WITH NO DISTRIBUTION COUNT	0
DISTRICTS WITH NO WEALTH	0
DISTRICTS WITH NO EXPENSE	0
INVALID DISTRICT TYPES	0

VALID DISTRICTS	549
MINIMUM AID DISTRICTS	17
EQUALIZATION AID DISTRICTS	542
OVER EQUALIZATION CEILING	525
FORMULA AID SAVE HARMLESS	0
NO FORMULA AID	0

CATEGORICAL PROGRAMS:	
TRANSP. AID	545
EXC. PUPIL AID	511

NO AID	0
--------	---

DISTRICT TYPE DISTRIBUTION	
DISTRICT TYPE 1---S W/ AID GAINS	525
DISTRICT TYPE 2---S W/ AID LOSES 0	24

ALLOCATION TITLE : MD FORMULA W/ LIMITED APPT AND S-H
 REPORT TITLE : AID ALLOCATION STATE SUMMARY REPORT

ID : MDTEST02

STATE SUMMARY TOTALS AND UNIT MEANS

	PROJECTIONS		BASE YEAR	
	UNIT MEANS	STATE TOTALS	UNIT MEANS	STATE TOTALS
TOTAL STUDENT UNITS		824745.		
WEALTH BASE	30746.	25357234288.		
WEALTH TIER 2	29115.	24012489095.		
AIDABLE EXPENDITURE	1651.	1361798138.		
MINIMUM AID	7.	5516993.		
EQUALIZATION AID	654.	539678494.		
TOTAL FORMULA AID	661.	545195487.	579.	477734805.
FORMULA AID SAVE HARM	0.	0.		
CATEGORICAL PROGRAMS:				
TRANSP. AID	76.	62487419.		
EXC. PUPIL AID	65.	53475819.		
TOTAL CATEGORICAL AID	141.	115963238.		
TOTAL AID	802.	661158725.		

COST DIFFERENCE SUMMARY

	UNIT MEANS	STATE TOTALS	PERCENT CHANGE
FORMULA AID	82.	67460682.	14.12

ALLOCATION TITLE: MO FORMULA W/ LIMITED APPORT AND S-H
 REPORT TITLE: SIMULATED AID REPORT

ID: M0TEST02

LISTED BELOW ARE PER STUDENT AMOUNTS. REPORT SEQUENCE IS PROJ TAX BASE . REPORT 1 OF 2. GROUP 1 OF 5.

DISTRICT CODE	DISTRICT NAME	NUMBER OF STUDENTS	PROJECTED TAX BASE	EQUALIZATION AID: PROJECTED BASE YEAR (% CHANGE)	FORMULA AID: PROJECTED BASE YEAR (% CHANGE)	TOTAL AID: PROJECTED BASE YEAR (% CHANGE)
018047	P-II EAST CASTER	764.	6359.	1020.	1020.	1291.
091093	(E) R-IV RIPLEY COUNTY	247.	7214.	891.	(15.87) 891.	1040.
085045	R-V LAQUEY	579.	7548.	979.	(8.78) 979.	1192.
091091	P-II NAYLOR	470.	7754.	910.	(20.63) 910.	1098.
022088	R-I CHADWICK	253.	7810.	1006.	(19.14) 1006.	1254.
005121	R-V SOUTHWEST	667.	7890.	1033.	(22.89) 1033.	1256.
046140	(E) R-XI FAIRVIEW	597.	8251.	1007.	(16.11) 1007.	1213.
101105	R-III WINONA	475.	8759.	999.	(22.71) 999.	1210.
107151	(E) R-VI SUCCESS	233.	8963.	892.	(13.60) 892.	1092.
018050	R-I VAN BUREN	559.	9486.	1027.	(11.38) 1027.	1204.
073105	(E) C-6 WESTVIEW	163.	9785.	1020.	(23.74) 1020.	1191.
046130	P-III MOUNTAIN VIEW-BIRCH TRE	1293.	9789.	913.	(8.90) 913.	1054.
091095	(E) RIPLEY COUNTY	144.	9874.	828.	(14.72) 828.	1003.
022090	P-III SPARTA	424.	9884.	938.	(19.62) 938.	1118.
078002	R-II HAYTI	1304.	9915.	945.	(17.45) 945.	1004.
022094	R-VII SPOKANE	394.	10279.	874.	(15.93) 874.	1104.
046132	(E) R-IV RICHARDS	395.	10353.	1042.	(21.33) 1042.	1230.
046131	R-IV WILLOW SPRINGS	1223.	10421.	889.	(16.90) 889.	1065.
075086	P-III KOSHKONONG	273.	10433.	1031.	(15.74) 1031.	1228.
005126	(E) 35 JENKINS	109.	10434.	994.	(12.84) 994.	1156.
085046	R-VI WAYNESVILLE	2103.	10555.	922.	(14.59) 922.	1187.
081097	(F) R-III PHELPS COUNTY	362.	10610.	927.	(14.85) 927.	1193.
090075	(E) R-I CENTERVILLE	174.	10650.	1109.	(16.12) 1109.	1302.
111086	F-II GREENVILLE	835.	10733.	1016.	(14.09) 1016.	1251.
					(13.63)	

ALLOCATION TITLE: MO FORMULA W/ LIMITED APPORT AND S-M
 REPORT TITLE: SIMULATED AID REPORT

ID: MOTEST02

LISTED BELOW ARE PER STUDENT AMOUNTS. REPORT SEQUENCE IS PROJ TAX BASE . REPORT 1 OF 2. GROUP 1 OF 5.

DISTRICT CODE	DISTRICT NAME	NUMBER OF STUDENTS	PROJECTED TAX BASE	EQUALIZATION AID: PROJECTED BASE YEAR (% CHANGE)	FORMULA AID: PROJECTED BASE YEAR (% CHANGE)	TOTAL AID: PROJECTED BASE YEAR (% CHANGE)
005124	R-II PURDY	490.	10865.	1020.	1020. (12.32)	1214.
077101	R-IV BAKERSFIELD	277.	10954.	908.	908. (21.51)	1100.
081095	R-II NEWBURG	556.	10977.	1050.	1050. (11.03)	1256.
075087	R-IV ALTON	876.	10982.	940.	940. (16.24)	1121.
046137	(E) C-12 JUNCTION HILL	274.	10982.	931.	931. (23.53)	1162.
005122	R-IV EXETER	272.	11031.	909.	909. (19.25)	1025.
091092	R-I DONIPHAN	1486.	11031.	913.	913. (9.65)	1065.
085049	R-II PULASKI COUNTY	526.	11101.	953.	953. (8.43)	1141.
046135	(E) R-VIII GLENWOOD	308.	11115.	1012.	1012. (15.58)	1183.
110014	(E) KINGSTON	661.	11158.	959.	959. (13.81)	1138.
111087	R-I CLEARWATER	1172.	11262.	980.	980. (19.47)	1168.
039142	R-X FAIR GROVE	895.	11271.	939.	939. (18.07)	1105.
078012	18 CARUTHERSVILLE	1833.	11289.	953.	953. (15.73)	992.
114112	R-I NORWOOD	276.	11301.	980.	980. (27.08)	1145.
073106	R-VII NEWTON COUNTY	1166.	11336.	947.	947. (11.48)	1084.
114113	R-II HARTVILLE	807.	11518.	947.	947. (15.27)	1138.
106002	(E) R-II TANEYVILLE	201.	11531.	822.	822. (19.34)	961.
112101	R-III FORDLAND	514.	11534.	916.	916. (16.17)	1119.
035092	R-I MALDEN	1788.	11558.	878.	878. (15.57)	1007.
047064	(E) R-III BELLEVUE	293.	11570.	811.	811. (11.20)	960.
107153	R-II SUMMERSVILLE	650.	11613.	856.	856. (11.70)	1028.
034122	(E) R-VIII PLAINVIEW	108.	11619.	856.	856. (25.79)	1061.
114115	R-IV MANSFIELD	767.	11727.	812.	812. (14.70)	947.
046129	(E) C-2 PEACE VALLEY	64.	11742.	978.	978. (6.30)	1179.

ALLOCATION TITLE: MD FORMULA W/ LIMITED APPORT AND S-H
 REPORT TITLE: SIMULATED AID REPORT

ID: NOTEST02

LISTED BELOW ARE PER STUDENT AMOUNTS. REPORT SEQUENCE IS PROJ TAX BASE . REPORT 1 OF 2. GROUP 1 OF 5.

DISTRICT CODE	DISTRICT NAME	NUMBER OF STUDENTS	PROJECTED TAX BASE	EQUALIZATION AID: PROJECTED BASE YEAR (% CHANGE)	FORMULA AID: PROJECTED BASE YEAR (% CHANGE)	TOTAL AID: PROJECTED BASE YEAR (% CHANGE)
036136	R-XIII ST. CLAIR	1680.	18060.	779.	779. (16.24)	963.
050010	C-1 WINDSOR	1934.	18152.	913.	913. (15.99)	1160.
094086	P-III ST. FRANCOIS COUNTY	1914.	18166.	825.	825. (16.27)	979.
103135	R-XIII BERNIE	798.	18170.	741.	741. (12.79)	889.
036133	(E) R-XIV LONEDELL	515.	18229.	797.	797. (17.08)	1043.
062070	R-VI MARQUAND	245.	18403.	958.	958. (10.88)	1231.
039134	P-III PEPUBLIC	2024.	18425.	693.	693. (12.51)	858.
062072	P-I FREDERICKTOWN	1705.	18448.	773.	773. (18.36)	922.
033090	P-EO SALEM	1093.	18466.	791.	791. (18.90)	924.

GROUP 1 STATISTICS

DISTRICT COUNT
 DISTRICTS GAINING AID
 DISTRICTS LOSING AID
 DISTRICTS NO CHANGE

177

177
 0
 0

STUDENT COUNT
 STUDENTS GAINING AID
 STUDENTS LOSING AID
 STUDENTS NO CHANGE

165145.

165147.
 0.
 0.

WEIGHTED MEANS
 PERCENT CHANGE
 STANDARD DEVIATION
 COEFFICIENT OF VARIATION
 MINIMUM VALUE
 MAXIMUM VALUE

14797. 872.
 2701. 74.
 0.183 0.084
 6359. 693.
 18466. 1109.

872. 749. 1043.
 (16.30)
 74. 64. 91.
 0.084 0.085 0.087
 693. 560. 858.
 1109. 972. 1337.

ALLOCATION TITLE: NO FORMULA W/ LIMITED APPORT AND S-H
REPORT TITLE: SIMULATED AID REPORT

ID: MOTEST02

LISTED BELOW ARE PER STUDENT AMOUNTS. REPORT SEQUENCE IS PROJ TAX BASE . REPORT 1 OF 2. GROUP 5 OF 5.

PROJECTED EQUALIZATION AID: FORMULA AID: TOTAL AID:
TAX BASE PROJECTED BASE YEAR PROJECTED BASE YEAR PROJECTED BASE YEAR

GROUP 5 STATISTICS

DISTRICT COUNT 70
DISTRICTS GAINING AID
DISTRICTS LOSING AID
DISTRICTS NO CHANGE

50
17
3

STUDENT COUNT 174956.
STUDENTS GAINING AID
STUDENTS LOSING AID
STUDENTS NO CHANGE

115709.
55746.
3501.

WEIGHTED MEANS
PERCENT CHANGE
STANDARD DEVIATION
COEFFICIENT OF VARIATION
MINIMUM VALUE
MAXIMUM VALUE

54456.	343.	375.	361.	486.
		(3.67)		
24217.	126.	75.	58.	98.
0.445	0.367	0.201	0.160	0.202
40418.	0.	285.	259.	308.
193309.	533.	533.	527.	886.

STATE SUMMARY STATISTICS

DISTRICT COUNT 549
DISTRICTS GAINING AID
DISTRICTS LOSING AID
DISTRICTS NO CHANGE

528
18
3

STUDENT COUNT 824745.
STUDENTS GAINING AID
STUDENTS LOSING AID
STUDENTS NO CHANGE

765479.
55765.
3501.

WEIGHTED MEANS
PERCENT CHANGE
STANDARD DEVIATION
COEFFICIENT OF VARIATION
MINIMUM VALUE
MAXIMUM VALUE

30746.	654.	661.	579.	802.
		(14.12)		
17886.	203.	188.	152.	210.
0.582	0.311	0.284	0.263	0.261
6359.	0.	285.	259.	308.
193309.	1109.	1109.	1473.	1337.

STATE SUMMARY STATISTICS

ALLOCATION TITLE: NO FORMULA W/ LIMITED APPORT AND S-M
 REPORT TITLE: SIMULATED AID REPORT

ID: MOTEST02

LISTED BELOW ARE PER STUDENT AMOUNTS. REPORT SEQUENCE IS PROJ TAX BASE . REPORT 1 OF 2.

SUMMARY TABLE OF WEIGHTED MEANS
 TOTAL NUMBER OF DISTRICTS: 549

PUPIL GROUP	RANGE OF PROJ TAX BASE	PROJECTED TAX BASE	EQUALIZATION AID: PROJECTED BASE YEAR	FORMULA AID: PROJECTED BASE YEAR	TOTAL AID: PROJECTED BASE YEAR	
1.	6359. - 18466.	14797.	872.	872.	749.	1043.
2.	18472. - 24973.	22208.	756.	756.	645.	914.
3.	25051. - 29297.	26052.	730.	730.	637.	867.
4.	29364. - 40344.	34147.	597.	597.	522.	727.
5.	40418. - 193309.	54456.	343.	375.	361.	486.
STATE AVERAGE	6359. - 193309.	30746.	654.	661.	579.	802.

ALLOCATION TITLE: MO FORMULA W/ LIMITED APPORT AND S-H
 REPORT TITLE: SIMULATED AID REPORT

ID: MOTEST02

LISTED BELOW ARE DISTRICT AMOUNTS. REPORT SEQUENCE IS CODE NUMBER . REPORT 2 OF 2.

DISTRICT CODE	DISTRICT NAME	NUMBER OF STUDENTS	PROJECTED TAX BASE	EQUALIZATION AID: PROJECTED BASE YEAR (% CHANGE)	FORMULA AID: PROJECTED BASE YEAR (% CHANGE)	TOTAL AID: PROJECTED BASE YEAR (% CHANGE)
001090	R-I ADAIR COUNTY	423.	6069881.	387151.	387151. 339823. (13.93)	477804.
001091	R-III KIRKSVILLE	2555.	77136035.	1540645.	1540645. 1313551. (17.29)	2112216.
001092	R-II ADAIR COUNTY	287.	6514013.	197433.	197433. 163963. (20.41)	271921.
002089	R-IV NORTH ANDREW	308.	7676524.	243749.	243749. 208006. (17.18)	318707.
002090	(E) R-IX AVENUE CITY	124.	3246362.	88672.	88672. 74090. (19.68)	121686.
002091	C-1 FILLMORE	116.	4322539.	59066.	59066. 51938. (13.72)	90473.
002097	R-III SAVANNAH	2083.	44398222.	1511490.	1511490. 1263750. (19.60)	1823025.
003031	R-I TARKIO	520.	22886434.	223421.	223421. 202534. (10.31)	338108.
003032	R-II ROCK PORT	652.	29034315.	254817.	254817. 218042. (16.87)	370333.
003033	R-III FAIRFAX	263.	14529728.	80305.	80305. 78903. (1.78)	132449.
003034	(E) R-IV WESTBORO	111.	7832881.	9202.	32117. 30925. (3.85)	48122.
004106	R-IV COMMUNITY	502.	15821673.	308840.	308840. 268351. (15.09)	402881.
004109	R-I VANDALIA	960.	25654625.	600776.	600776. 522783. (14.92)	765349.
004110	59 MEXICO	2898.	84904804.	1763062.	1763062. 1503320. (17.28)	2123174.
005120	R-III WHEATON	329.	3943342.	347624.	347624. 298192. (16.58)	415791.
005121	R-V SOUTHWEST	667.	5264154.	689156.	689156. 593541. (16.11)	837824.
005122	R-IV EXETER	272.	2998670.	247210.	247210. 207302. (19.25)	278625.
005123	R-IV CASSVILLE	1163.	17941393.	995965.	995965. 853097. (16.75)	1212512.
005124	R-II PURDY	490.	5327247.	500221.	500221. 445348. (12.32)	595171.
005126	(E) 35 JENKINS	109.	1137758.	108345.	108345. 94552. (14.59)	126319.
005127	(E) 78 SHELL KNOB	194.	5751549.	114014.	114014. 98238. (16.06)	158159.
005128	R-I MONETT	1480.	24540285.	1153732.	1153732. 977284. (18.05)	1317433.
006101	R-II LIBERAL	483.	15151388.	225755.	225755. 171922. (31.31)	324625.
006103	R-III GOLDEN CITY	309.	9299968.	163224.	163224. 131451. (24.17)	223802.

ALLOCATION TITLE: NO FORMULA W/ LIMITED APPORT AND S-H
 REPORT TITLE: SIMULATED AID REPORT

ID: MOTEST02

LISTED BELOW ARE DISTRICT AMOUNTS. REPORT SEQUENCE IS CODE NUMBER . REPORT 2 OF 2.

DISTRICT CODE	DISTRICT NAME	NUMBER OF STUDENTS	PROJECTED TAX BASE	EQUALIZATION AID: PROJECTED BASE YEAR (% CHANGE)	FORMULA AID: PROJECTED BASE YEAR (% CHANGE)	TOTAL AID: PROJECTED BASE YEAR (% CHANGE)
006104	R-I LAMAR	1092.	29279425.	660721.	547386.	816622.
007121	R-I MIAMI	336.	8906828.	230092.	198762.	311246.
007122	R-II BALLARD	154.	4450832.	107447.	91274.	140957.
007123	R-II ADRIAN	550.	10683054.	452230.	394247.	530017.
007124	R-IV RICH HILL	468.	10281715.	368550.	313462.	430664.
007125	R-VIII HUME	148.	4218237.	118424.	104917.	148318.
007126	(E) R-IX HUDSON	110.	3467753.	60602.	47612.	77121.
007129	R-V BUTLER	985.	25933911.	672042.	578023.	783997.
008106	R-II LINCOLN	473.	12303195.	291616.	249292.	386397.
008107	R-IX WARSAW	888.	23931450.	521374.	434209.	681866.
008110	R-IX X BENTON COUNTY	53.	2231297.	25142.	24292.	34220.
008111		686.	16704891.	404365.	321617.	526701.
009077	R-II MEADOW HEIGHTS	525.	8476496.	422233.	376465.	573273.
009078	R-III LEOPOLD	166.	2001866.	150482.	124529.	167962.
009079	R-V ZALMA	328.	4472154.	272469.	231371.	373798.
009080	R-IV WOODLAND	916.	14454202.	722553.	634547.	924825.
010087	R-I SOUTHERN BOONE COUNTY	672.	12539046.	623846.	551677.	747310.
010089	R-IV BOONE COUNTY	912.	11745376.	863132.	712541.	1019626.
010090	R-V BOONE COUNTY	334.	6273954.	264458.	209201.	326380.
010091	R-VI CENTRALIA	1229.	29274224.	854369.	742242.	1010142.
010092	R-VIII HARRISBURG	424.	6214260.	400022.	349102.	493039.
010093	93 COLUMBIA	10427.	312302766.	8459124.	5306393.	8423527.
010096	(E) C-7 MIDWAY HEIGHTS	416.	9544367.	317444.	256950.	410541.
011076	C-1 EAST BUCHANAN	861.	20279061.	616319.	538171.	763910.

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LISTED BELOW ARE DISTRICT AMOUNTS. REPORT SEQUENCE IS CODE NUMBER . REPORT 2 OF 2.

PROJECTED EQUALIZATION AID: FORMULA AID: TOTAL AID:
 TAX BASE PROJECTED BASE YEAR PROJECTED BASE YEAR PROJECTED BASE YEAR

STATE SUMMARY STATISTICS

DISTRICT COUNT 549
 DISTRICTS GAINING AID
 DISTRICTS LOSING AID
 DISTRICTS NO CHANGE

528
 18
 3

STUDENT COUNT 824745.
 STUDENTS GAINING AID
 STUDENTS LOSING AID
 STUDENTS NO CHANGE

765479.
 55765.
 3501.

UNWEIGHTED MEANS
 PERCENT CHANGE
 STANDARD DEVIATION
 COEFFICIENT OF VARIATION
 MINIMUM VALUE
 MAXIMUM VALUE

46188041. 983021.
 148328124. 2815332.
 3.211 2.864
 655536. 0.
 1843960818. 55443943.

993070. 870191. 1204296.
 (14.12)
 2818348. 2528114. 3270437.
 2.838 2.905 2.716
 7879. 10944. 11051.
 55443943. 49784127. 63049518.

STATE SUMMARY STATISTICS

SCHOOL FINANCE EQUALIZATION MANAGEMENT SYSTEM

AN
OVERVIEW

April 1977

Introduction

An effective information system should provide answers to users' questions as precisely and clearly as possible. The School Finance Equalization Management System (SFEMS) allows the user to create a research design with a maximum of individual control and a minimum of system restrictions. The user has the ability both to frame the research question, and to determine the shape of the resulting output. The value judgments on which the design of the research is based are those of the user, not those imposed by the developers of the system.

SFEMS is composed of three components or phases, and two types of data files. The independence of SFEMS' three phases increases the system's flexibility. Although most research designs will employ all three phases, a user need invoke only the phase or part of a phase which is required to obtain the desired information.

What Can You Do With SFEMS?

SFEMS' fundamental application is to school finance research. The system can be used to answer a wide range of questions. Among them are:

What is the pattern of aid distribution under your present school funding law?

What proportions go to cities, suburbs, rural areas?

Do districts making a greater tax effort receive recognition?
Or is spending related primarily to the wealth of the community?

Does the law concentrate funds on existing and/or potential educational problems?

Is your present school funding law in accordance with current legal concepts of equity in taxation and equality of opportunity in educational resources?

What alternative approaches are available? How will they affect the taxation and expenditures of particular districts?

School finance study, however, is not the only use for SFEMS.

Since SFEMS' phases are independent, the potential uses are not limited to the traditional school finance concerns of raising and distributing funds for public education. The user may choose to design a data file which includes data elements suitable for other types of related analysis. For example, information could be included on local district budget allocations, results of student assessment programs, and a district's physical needs or equipment utilization.

Features of SFEMS

SFEMS has been designed to facilitate user control. The user instructs the system by means of a standard syntax; each instruction activates a particular option of SFEMS. Some of the options available in the system are:

- 1) multiple definitions of wealth, effort, and need;
- 2) dynamic specification of pupil weightings;
- 3) minimums/maximums;
- 4) dynamic specification of local district response behavioral assumptions both before a new plan is implemented and longitudinally;
- 5) longitudinal predictions;
- 6) multiple layouts of analyses;
- 7) benchmark studies which show both dollar and percentage changes in aid;
- 8) proportional reduction of aid;
- 9) counts of districts receiving aid under minimums, equalization, save-harmless and categorical programs;
- 10) percentiles, frequency distributions, sequenced listings, summary statistics, measures of equity such as McLoone Index and Gini coefficient.

Overview of the System

SFEMS is composed of three independent phases: Data Collection, Aid Allocation and Analysis. The function of the Data Collection Phase is the collection and storage of data. The General File -- one of SFEMS' two kinds of data files -- is the product of this Phase. Since the Data Collection Phase is independent of the rest of the system, the General File can be modified or updated whenever desired.

In the Aid Allocation Phase, alternative school finance plans are simulated and new expenditure levels and tax rates can be predicted. The data generated during the course of the Aid Allocation Phase are stored in Allocation Files. This is the second type of data file. A separate Allocation File is created for each allocation alternative. The data within these files are available for use both in the Allocation Phase itself and in the third phase of the system, the Analysis Phase.

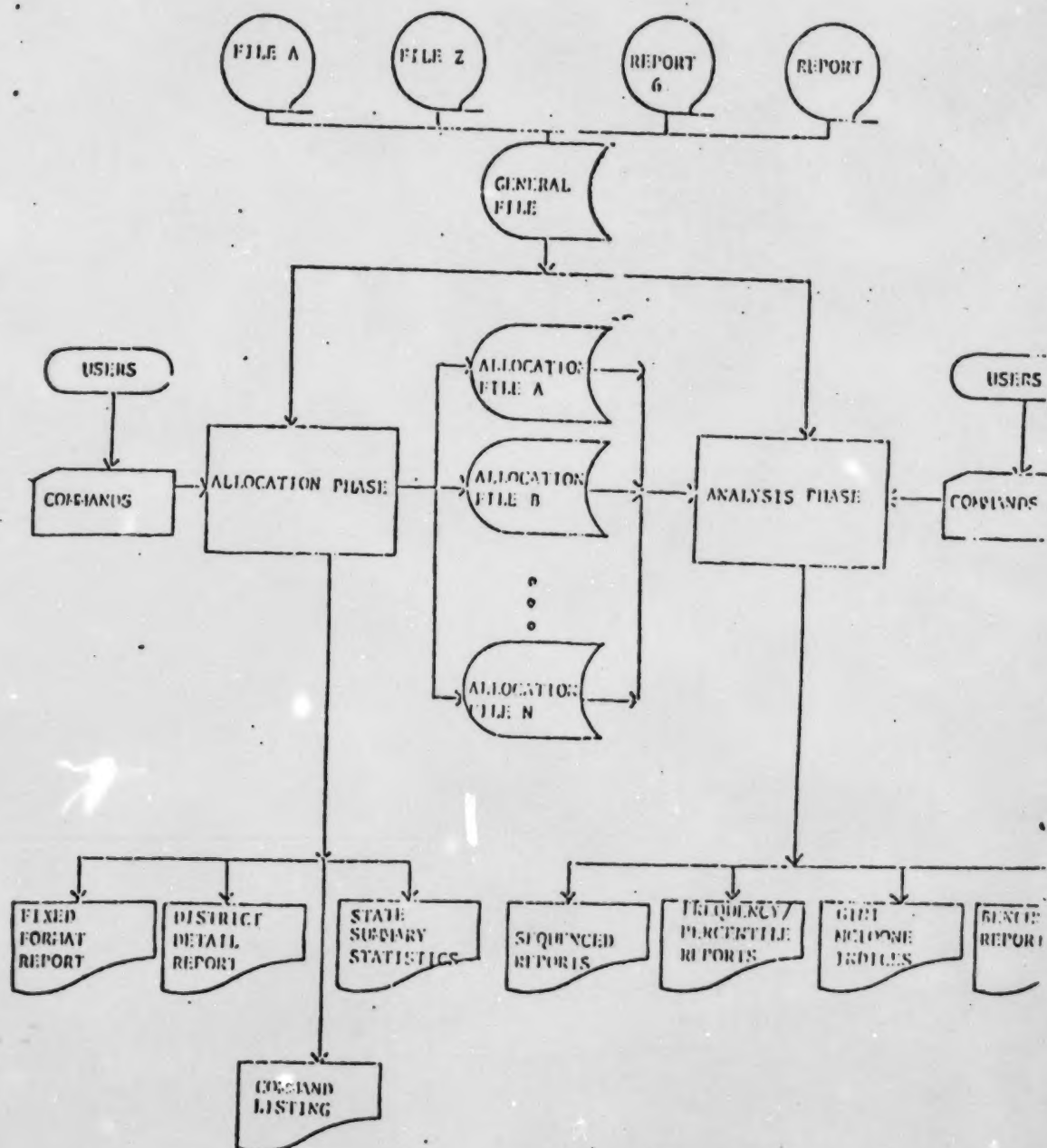
In the Analysis Phase, allocation alternatives can be compared and evaluated by means of a number of statistical and analytic techniques. Each allocation alternative can be evaluated by using a wide range of criteria. This component is not necessarily the last step in a study; in fact, use of the Analysis Phase will quite frequently precede use of the Allocation Phase.

Since the three phases of SFEMS are independent, they are used in the sequence and combination which are appropriate to the research question under study. For example, a user may wish to examine these research questions in the following sequence: 1) the present level of inequalities among district wealth, effort and need; 2) the effect of the present state aid system in overcoming these inequalities; 3) the

simulation of equalization aid alternatives; and 4) the level of inequality after a new state aid system is introduced. Steps 1 and 2 use only the General File and the Analysis Phase. Step 3 uses the General File, the Aid Allocation Phase and possibly one or more Allocation Files. Step 4 uses all three Phases.

-5-
SCHOOL FINANCE EQUALIZATION MANAGEMENT SYSTEM

SYSTEM OVERVIEW



Data Collection

SFEMS uses a General File to store the basic data elements used in the system. The General File is independent from the other phases of the system, to allow for greater flexibility and to reduce the dependency between file structure and application programming. For conducting research this General File is linked to the SFEMS Allocation and Analysis Phases. The content of the General File depends upon the nature of the user's questions and the availability of data to answer those questions. Four important points should be made concerning the data in the General File:

- 1) Data in the General File is stored in the aggregate; there is no per pupil data. Per pupil data can be derived for use in simulations and analyses by dividing the district aggregate by the number of pupils in the district.
- 2) Data elements should be carried by the system in their smallest component parts; that is, if a variable -- such as number of students -- is actually a total of several other constituent variables -- such as number of kindergarten students, number of elementary students, number of secondary students, etc. -- then the components, and not the total, should be entered in the General File. The total can be derived later by summing appropriate data elements. This approach to data storage allows for the greatest flexibility and most efficient use of the General File. The nature of the research questions will dictate precisely which data elements are relevant. Whatever the variable, however, data should be collected on the most elemental level.

- 3) Multiple definitions of research variables are possible in SFEMS.

There is ample space available in the General File to accommodate alternate measures of any pertinent variable. As we will explain presently, the four major school finance formulas are mathematically equivalent. Therefore, the selection of a specific formula is secondary to defining the variables of the formula -- wealth, effort, and need -- and establishing the relationships among these variables. For example, let us look at the wealth/pupil variable which exists in all of the formulas. The way in which we define wealth -- as property wealth, income wealth, or some other measure -- determines the measure of the district's ability to support education. In districts that are property rich and income poor the use of property valuation rather than income makes them look wealthy, the use of an income measure will have the opposite effect. In some districts, where property measures of wealth make the district look wealthy, income measures will make the district appear average or poor. Varying the way pupils are counted, too, can make a significant difference. Three measures -- wealth/pupils enrolled, wealth/pupils in attendance, and wealth/weighted pupils -- will yield three widely varying estimates of ability to pay, and if population is substituted for pupils the variations will be even greater.

Some data items are obvious choices for inclusion in the General File - pupils, district wealth, school tax rates and expenditures. Other factors -- class size, student characteristics, school facilities, test scores -- are less obvious choices since they are applicable only to more specific questions.

4) Data collected and calculated by and for the entire state is often slow in appearing. It is not unusual for the "most recent" fiscal data available to be over a year old. You may want to update old data by means of a growth

factor, inflation factor or similar index. From information on a small sample of districts you can determine the index which, when applied to the prior year's data, will best approximate the current year's data. This procedure can be done within SFEMS, in the Allocation Phase. SFEMS includes an alternative approach to the problem of old data. Through use of the "Multi-year Projection" the user can first simulate a new state aid plan, based on existing data, and predict new expenditure and tax rate data for the state. This projected data is stored in an Allocation File. The user is then able to use the data from this Allocation File as the basis for predicting the impact of state aid in the second year of the plan. This option is considerably more complex than application of a growth index to current data, and its function goes beyond simply updating General File data.

Allocation Phase

In the Allocation Phase of SFEMS, the required data is assembled, commands are specified and aid alternatives are simulated. In simulating an alternative aid allocation plan the essential decisions to be made focus on the formulation of the plan. In the following pages we will describe the components which make up a school finance plan -- equalization formulas, minimum aid, save-harmless provisions and categorical programs.

1. Equalization Formulas

Since the turn of the century when Cubberly first discussed the inequities in fiscal capacity among local school districts, schoolmen, academicians and state legislators have grappled with how best to remedy this problem.¹ Four major alternatives for relieving these inequities have been developed over the years -- Minimum Foundation, Percentage Equalizing, Guaranteed Valuation, and District Power Equalizing. Although these alternatives differ in their conception of the state and local role, and in the attributes of equalization which are highlighted, they all are shared cost formulas based on the same components -- tax effort, tax yield and wealth.

Although the equalizing ability of shared cost formulas based on these general approaches varies with specific implementations, in their pure form the formulas are conceptually and mathematically the same. Aid in each of these formulas is allocated in inverse proportion to wealth, which is generally measured by property valuation per pupil.

¹While Cubberly was a pioneer in identifying the problem, his solution, the flat grant, did not in fact take account of the disparities and therefore will not be discussed here.

In addition, various formulas highlight different attributes of equalization. For example, Percentage Equalizing highlights the state share, the Foundation Program highlights the guaranteed expenditure level, Guaranteed Valuation highlights the state guaranteed valuation and DPE highlights the effort factor.

2. Equivalence of Equalization Formulas

In this section we will show that the Guaranteed Valuation, Percentage Equalizing and District Power Equalizing programs are equivalent. Furthermore, the Foundation Program is a special case of these formulas. The equivalence is first demonstrated through the use of a general formula which employs the accepted school finance terminology -- wealth is measured by property value and the unit of analysis is pupils. Then a more universal formula is presented which allows for more comprehensive measures of wealth and need.

All of the above shared cost school finance formulas can be expressed in the following formula:

$$A_1 = (1 - \frac{B_1}{B_g}) B_g t_1$$

Where

A_1 is the equalization aid allocated to the district per pupil.

B_g is the state guaranteed valuation per pupil.

B_1 is the equalized valuation per pupil in the district.

E_1 is the district expenditure per pupil covered by the equalization program.

t_1 is the computed equalization tax rate for the district:

$$t_1 = \frac{E_1}{B_g}$$

Guaranteed Valuation

We begin the discussion of equivalence with the Guaranteed Valuation program. Under this program the state assures that each district can act as though it had a property value guaranteed by the state (B_g). State aid (A_i) is the difference between what would be raised under the guarantee (B_g) and what is raised by the local tax base (B_i). Therefore the formula is:

$$A_i = B_g t_i - B_i t_i$$

The proof that this is equal to the general formula will now be presented.

First, the second term on the right hand side is multiplied by 1 or $\frac{B_g}{B_g}$ which results in:

$$A_i = B_g t_i - \frac{B_i t_i B_g}{B_g}$$

factoring out $B_g t_i$ we have $A_i = (1 - \frac{B_i}{B_g}) B_g t_i$ which is the general formula.

Percentage Equalizing

Under Percentage Equalizing the state assures that it will pay a specified percentage of the expenditures (E_i) in a district having average wealth per pupil. In the formula k is the local share of expenditures in the district with average wealth (B_a). The formula is generally stated as follows:

$$A_i = (1 - k \frac{B_i}{B_a}) E_i$$

Put in this formula both k and B_a are constants, and we can find a B_g such that:

$$B_g = \frac{B_a}{k}$$

We can substitute B_g for $\frac{B_a}{k}$ in the formula (actually $1/B_g$ for $\frac{k}{B_a}$)

$$A_1 = (1 - \frac{B_1}{B_g}) E_1$$

We have defined the equalization tax rate (t_1) to be equal to expenditure over guaranteed valuation:

$$t_1 = \frac{E_1}{B_g}$$

$$E_1 = B_g t_1$$

$$A_1 = (1 - \frac{B_1}{B_g}) B_g t_1, \text{ the general formula.}$$

District Power Equalizing

District Power Equalizing assures that each district will receive an equal yield for an equal effort. This formula is usually stated as a table of guarantees commensurate with tax efforts such as:

<u>Tax Effort (X)</u>	<u>Guarantee</u>
1	\$1000
2	2000
3	3000

Given a linear tax effort guarantee relationship of the form $G = at_1$ where a is a constant, the guarantee for a district becomes equal to E_1 . State aid is the difference between the guarantee and what is raised locally.

Thus

$$A_1 = E_1 - B_1 t_1$$

But

$$E_1 = B_g t_1 \text{ where } B_g \text{ has replaced } a \text{ as the constant and}$$

$$A_1 = B_g t_1 - B_1 t_1$$

This is the Guaranteed Valuation program which we have already shown is equal to the general formula. The more general linear relationship $B = at_1 + b$ also can conform to the general model but the constant b may be treated as a minimum aid provision. This will be considered in the next section.

District Power Equalizing is the first equalization program to explicitly consider the possibility of negative aid. If the district wealth is greater than the guaranteed wealth then more revenue will be raised than that assured by the state. Other programs typically ignored districts above the guarantee level. The recaptured amount is calculated as a negative A_1 and will be negative when B_1 is greater than B_g .

Foundation Program

Under a Foundation Program the state guarantees a fixed amount of expenditures (G) for a specific tax rate (t_s). The formula is generally stated as:

$$A_1 = G - t_s B_1$$

The guarantee (G) is the state set expenditure level (E_1) for all districts.

and

$$E_1 = B_g \tau_1$$

However, τ_1 is set by the state at τ_s and in this case

$$E_1 = B_g \tau_s$$

Substituting for G in the foundation formula

$$A_1 = B_g \tau_s - B_1 \tau_s$$

Thus the Foundation Program is a special case of the Guaranteed Valuation program where E_1 and consequently τ_1 are state set. And therefore the Foundation Program is a special case of the general formula:

$$A_1 = \left(1 - \frac{B_1}{B_g}\right) B_g \tau_s$$

General Form

A more universal form of the general formula can be stated as follows:

$$A_1 = \left(1 - \frac{W_1}{W_0}\right) W_0 \tau_1$$

Where W_0 = the state guaranteed wealth per unit

W_1 = the wealth measure in the district per unit. In this case property valuation may be enhanced or replaced as the basis for equalizing aid payments.

3. Non-Equalizing Aid

The formulas we have discussed up to this point are designed to relieve inequities in fiscal capacity among local school districts. As such, they are called "equalization formulas." Many states have additional state aid provisions which provide districts with aid for general operating expenditures, but which are not designed to overcome differences in district wealth.

Minimum Aid

A common feature of many school finance plans is "minimum aid" -- usually a dollar amount which every district is entitled to receive. There are five types of minimum aid available for specification in SFEMS. They are:

Type I - Expenditure Reducing. All districts receive the minimum amount but this amount is subtracted from aidable expenditures for the district before equalization aid is calculated.

Type II - Flat Grant. All districts receive the minimum aid amount and it has no effect on any other aid program.

Type III - Flat Grant Variation. All districts receive the minimum aid amount, but this amount is then subtracted from equalization aid, if any. Equalization aid is reduced by the amount of the minimum.

Type IV - Flat Grant Variation. A district's equalization aid amount is subtracted from the minimum amount. The district receives all its equalization aid but receives minimum aid only in the amount that it exceeds the equalization aid.

Type V - Flat Grant Variation. If equalization aid is less than the minimum amount, a district receives all its aid as minimum aid, and equalization aid becomes zero.

The last three Minimum Types yield the same dollar amounts to any one district; they differ only in labeling of the sources of the various aid amounts.

The rationale for the use of "minimums" in state aid formulas is that the state, having primary responsibility for the provision of education, should support some part of every district's total education bill, however small that contribution. Political pressures, too, are often the "justification" for retaining minimum grant provisions along with equalization formulas.

Save-harmless Provisions

Save-harmless or "save from harm" provisions are established to insure that the amount of state aid received by a district (either per pupil or total) under a new plan does not differ radically from payments received in a prior year. There are two sorts of save-harmless provisions: formula save-harmless applies only to the amount of equalization and minimum aids, and total save-harmless applies to the total aid amount.

The reasons for "save-harmless" range from political necessity to avoidance of sudden shifts in tax rates or expenditure patterns. The provisions may require that calculated aid for the new year shall not be less (per pupil or total) than that received in a prior year. If calculated aid is less than that amount, the difference is paid to the district under the label "save-harmless aid." Although the effect of a save-harmless provision is similar to that of a minimum, a minimum is a set amount that is equal for all districts (in a class) while the save-harmless level can vary from district to district.

Categorical Aid.

A final type of state aid that is commonly distributed to all school districts is categorical aid. Categorical programs are designed to address specific educational needs, such as transportation, compensatory education, vocational education, and so forth. Although categorical aid may be disequalizing as measured on a capacity equalizing basis, it may serve to meet student equity objectives. These grants encourage local districts to provide special services and programs, that they might otherwise be unwilling or financially unable to offer, by defraying part or all of the costs.

Categorical aid may be distributed through a number of different mechanisms. Aid may be paid to a district as a reimbursement for expenditures made for special activities. For example, a state might reimburse a school district for one-half of the actual cost in running a special education class, or for all of the cost of transporting students to and from school. Aid may be distributed as a flat grant; a state might give districts additional per pupil allocation for every student classified as needing specialized education. In these two cases, the determining factor for receiving categorical aid is the size of the educational need -- for example, the number of handicapped students -- rather than the wealth of the district. As a result, the distribution of some categorical grants may have a positive relationship to the distribution of wealth in the district. For example, if it is a state policy to pay 100% of the cost of transportation, a rich, low density suburb may receive a per pupil amount for transportation aid several times greater than that of the poorer, high density urban area which has limited transportation needs.

Categorical aid can be distributed in a way that equalizes for

wealth as well as for educational need. Several states now use "pupil weighting systems" for distributing categorical funds. Pupils are given additional weights according to their educational need and these pupil counts are then incorporated into the regular equalization formula. The result is that more state aid flows to those districts which have a relatively larger pupil count, and districts that are poor receive proportionately more aid for the additional pupils than those that are wealthy.

4. Intermediate Equalization Revenue

SFEMS includes an option which allows the user to specify revenues received by the district from an intermediate funding source. The source may be the Federal government, the county government, or another funding level other than the state. Equalization aid may be reduced by the amount of the intermediate revenues: data is stored in the Allocation Phase under two categories - "Intermediate Revenue applied" and "Intermediate Revenue not applied." Some of the intermediate revenue will not be applied if the total amount of intermediate revenues is greater than the amount of equalization aid.

The user may also choose to have intermediate revenues applied to minimum aid amounts as well as equalization aid.

An alternate method of accounting for intermediate revenues is to consider the funds as categorical amounts, and include them as a non-equalizing portion of a district's aid.

5. Behavioral Assumptions

In order to simulate the effects an allocation alternative will have on the distribution of wealth and resources within a state, the policy analyst requires knowledge of how a district is going to respond to a change in the state aid formula. If the district is allocated increased aid will it increase its expenditures? Or will it opt for a decrease in its tax burden?

At present, there is no empirical model on which to base expected district behavior. SFEMS approaches this issue by allowing the user to specify a set of behavioral assumptions. The assumptions fall into two broad areas: pre-simulation assumptions and response assumptions.

Pre-simulation behavioral assumptions are required when a district's aid is dependent on the level of expenditures or tax rate the district chooses. In this case the cost of the state aid program is a function of each district's choice.

In SFEMS, the researcher is allowed to specify different behavioral assumptions for up to twenty groups of districts. These groups can be defined on the basis of wealth, size, geographical location, tax rate or whatever criterion is chosen by the user. For each District Type, a separate effort level, minimum aid provision, formula aid save-harmless amount, intermediate revenue amount and, in fact, individual equalization plan can be specified.

In simulating an allocation alternative the policy analyst will be interested in the response to the change in state aid. A district which experiences a change in the amount of state aid received will respond by 1) holding either tax rate or expenditures constant and letting the other rise or fall as necessary, or 2) using a proportion of increased state aid to reduce taxes and the remainder to increase expenditures. The Prediction Group feature of SFEMS allows the researcher to apply different response assumptions to user specified groups of districts. Like the option de-

scribed above, this feature allows the user to define groups on the basis of size, wealth, effort, etc.. Up to five groups can be defined. Calculations of each group's Budget Year expenditures and tax rates will be made under different tax relief/expenditure increase assumptions and constraints.

Another feature of SFEMS which is used in conjunction with the response assumptions is the constraints provision. Under certain plans the districts behavior is partially regulated by law. There may be legally imposed tax rate minimums or expenditure maximums. The constraints option allows the user to impose maximums or minimums on tax rates or expenditures, different constraints can be established for each different Prediction Group.

Analysis Phase

In the Analysis Phase of SFEMS the research plan may be evaluated using an array of statistical techniques and data reporting methods. This phase can be used to evaluate the present state aid allocation plan or an allocation alternative which has been simulated in the Aid Allocation Phase. Thus the Analysis Phase might be used as the first step in studying the state -- by evaluating the present plan. After simulating allocation alternatives in the Aid Allocation Phase, the user can turn to the Analysis Phase again to evaluate the simulated plan.

1. Analytic Methods

Sequenced Report.

The Sequenced Report offers a way to display data which enables the user to observe trends and patterns and provides summary statistics for the entire state as well as for groups of districts.

The user's options in the Sequenced Report include naming the variables for which data will be reported, deciding the sequence in which districts will be listed, and defining the groups of districts.

In a Sequenced Report, up to seven Report Columns may be established by the user. District data will be reported for every Report Column variable. The user can define a Report Column as simply a data field from the General File, or he can individually specify the numerator and denominator of the Report Column (e.g. equalized valuation per pupil) as well as the weight to be applied when calculating weighted means.

The districts may be sequenced in any of the following ways: code number, alphabetical, analytic variable. Groups of districts may be defined by intervals or equal pupil groups. The purpose of both interval grouping and

equal pupil grouping is to provide an intermediate level of aggregation -- between the individual district and the entire state -- by which to evaluate the effects of alternatives and to examine patterns for pertinent variables.

The Sequenced Report also allows the user to limit the analysis to a particular group of districts either by specifically defining a group to be analyzed or by eliminating undesired districts. This option may be useful when the user wishes to eliminate a number of districts which are outliers or to eliminate a particular district, such as a large metropolitan area, which is known to skew statewide or interval statistics.

Another option allows the user to produce a Benchmark Report, one which lists percent differences in state aid or other variables resulting from two alternative school finance plans or between two years of one alternative plan.

Frequency Report

The Frequency Report presents frequency distributions and percentile distributions for up to nine variables per report. The calculation of the McLoone Index may also be requested.

Summary statistics are provided for both frequency and percentile distributions. As with the Sequenced Report, the user may specify that certain districts be eliminated from the Frequency Report analysis or that only particular districts be included in the analyses. In addition, the user may eliminate outliers for a particular variable, without eliminating an entire district, by placing high value and low value limits on the range of values to be covered in the distributions.

Gini Report.

The Gini Report produces a Gini coefficient and up to twenty-five points by which a Lorenz curve can be plotted. The Gini coefficient is used to determine how equitably a state's educational resources are distributed with regard to district wealth or educational need. Gini analysis proceeds as follows: Districts are sequenced according to wealth per pupil (or other educational need unit). Then the cumulative percentages of the Gini variable selected by the user--a measure of educational resources such as aid or expenditure--are plotted against the cumulative percentages of students sequenced by wealth. The Gini coefficient indicates to what degree the distribution of wealth follows the same pattern as the distribution of aid or expenditures. Are the poorest 10% of the pupils getting 10% of the resources? Are the 50% poorest pupils getting 50% of the resources? In a less than equitable situation it is likely that the 50% poorest pupils are getting only 30% or 40% of the resources.

The Gini coefficient, ranging from 0.0 to 1.0, indicates the level of equity. A coefficient of 0.0 indicates total equity, a value of 1.0 indicates total inequity.

The Lorenz curve is a graphic representation of the Gini analysis. The Gini Report supplies up to twenty-five points by which to plot the Lorenz curve. It is often helpful to use a Lorenz curve in conjunction with the Gini coefficient in order to evaluate the equity of an alternative under study. For example, if the distribution being examined is more than equalizing, that is, if 20% of the poorest pupils receive 50% of the state aid, the Gini coefficient will be invalid. Only by examining the Lorenz curve can a user determine the validity of the Gini coefficient.

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AGENDA

SFEMS Training Sessions
St. Louis Public Schools
October 21 and 22, 1981

Wednesday, October 21

8:30a.m. - 10:15a.m.	General Overview of SFEMS. Emphasis on types of reports generated by system
10:30a.m. - Noon	Systems Structure Command Syntax
1:00p.m. - 2:00p.m.	Allocation Commands: Set #1
2:00p.m. - 3:30p.m.	Allocation Commands: Set #2 and Problem #1
3:30p.m. - 4:30p.m.	Allocation Commands: Set #3 and Problem #2

Thursday, October 22

8:30a.m. - 9:30a.m.	Allocation Commands: Sets #4 and #5
9:30a.m. - 10:30a.m.	Discussion of Commands for Missouri State Aid formula
10:45a.m. - Noon	Analysis Commands: General Commands
1:00p.m. - 3:00p.m.	Analysis Commands: Sequenced Report Commands and Problem #1
3:00p.m. - 4:30p.m.	Analysis Commands: Frequency Report; Questions on Analysis phase and wrap-up.

MEASURING FISCAL CAPACITY IN SUPPORT OF EDUCATION

by

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Measuring Fiscal Capacity in Support of Education

Since the development of the earliest school aid formulas, the capacity of local districts to raise revenues for education (fiscal capacity) has been defined as property wealth per pupil. The use of this measure, which is the primary measure of fiscal capacity in state education aid formulas in over 40 states, reflects local government's reliance on the property tax and the stability of this tax base over time. For education in particular, real property is the principal source of local tax revenues. While property tax revenues provided 77.7 percent of locally-raised revenues for all local governments in 1979, 96.5 percent of all locally-raised school district revenues came from this source.¹

Yet, the use of property valuations as a measure of school district wealth masks underlying demographic, economic and fiscal characteristics that can undercut the capacity of large, older cities to raise revenues from their tax bases. This capacity may be constrained by the level of noneducation services that are required by an increasingly poor and aged population; the degree of fiscal stress facing communities with deteriorating tax bases; and the level of taxpayers' incomes.

Municipal Overburden

The concept of municipal overburden was developed first by researchers in the fields of urban economics and municipal finance and applied to education finance to explain one of the unique problems of financially

¹Advisory Commission on Intergovernmental Relations, Significant Features of Fiscal Federalism 1979-80 (Washington, D.C.: ACTR, 1980), Table 46.3.

troubled urban school districts. Economic analyses of municipal overburden focused initially on the interaction of noneducation and education expenditures. Suburbs were found to specialize in education, devoting a higher proportion of their budgets to school services. In contrast, large cities were found to devote the bulk of their revenues to noneducation functions associated with high proportions of poor and aged populations and requirements of public health, sanitation, fire and police protection.²

The same patterns can be seen with regard to the St. Louis and Kansas City metropolitan areas. Table 1 presents per capita noneducational and educational expenditures for St. Louis, Kansas City and their suburbs. In 1977, Kansas City spent 36 percent of its budget on education, while its suburbs devoted 47 percent of their resources to schools. The comparable figures for St. Louis and its suburbs were 34 percent and 57 percent respectively. Although the cities spent roughly the same per capita for education as their suburbs, their noneducational expenditures were 45 percent (Kansas City) and 158 percent (St. Louis) higher than those of their suburbs. The disparity in locally raised revenues between the city and suburbs for non-education functions was just as great: \$309 versus \$145 per capita in the Kansas City SMSA and \$313 versus \$125 in the St. Louis metropolitan area.³

² In an early study of this phenomenon, Campbell and Sacks found that expenditures on education comprised 31.3 percent of total expenditures in central city areas and 53.7 percent of total expenditures in outside central city areas. Conversely, noneducational expenditures constituted 68.7 percent of total expenditures for central cities and 46.3 percent for areas outside of central cities. Alan K. Campbell and Seymour Sacks, Metropolitan America: Fiscal Patterns and Governmental Systems (New York: The Free Press, 1967) p. 119.

³ Advisory Commission on Intergovernmental Relations, Central City-Suburban Fiscal Disparity and City Distress, 1977 (M-119) (Washington, D.C.: ACIR, December 1980), Table A-30.

Table 1

Per Capita Noneducational and Educational Expenditures,
1977

	<u>Educational Expenditures</u>	<u>Non-Educational Expenditures</u>	<u>Total Expenditures</u>	<u>Education as Percent of Total</u>
Kansas City	\$ 309	\$ 546	\$ 855	36%
Kansas City Suburbs	335	377	712	47
St. Louis	314	604	918	34
St. Louis Suburbs	322	234	556	57
U.S. Average ^a				
Central Cities	332	610	943	36
Suburbs	357	345	701	52

^aAverage for 85 largest SMSAs. Suburbs are all communities outside the central city but within the boundaries of the Standard Metropolitan Statistical Area (SMSA).

Source: Advisory Commission on Intergovernmental Relations, Central City-Suburban Fiscal Disparity and City Distress, 1977 (M-119) (Washington, D.C.: ACIR, December 1980), Tables A-24 and A-25.

With the Serrano case in 1971, courts began to invalidate state school finance systems for discrimination against students in school districts with low property tax bases. The courts required that fiscally nondiscriminatory systems (fiscally neutral in the legal terminology) be developed. Analysts warned, however, that fiscal neutrality alone (property tax base equalization) would not resolve the problems of the large cities, and might in fact exacerbate their condition. Because they disregard the total expenditure responsibilities and total tax responsibilities (general municipal and educational) of urban areas, it was argued that fiscally neutral approaches, such as power equalizing, might understate the relative fiscal needs and tax effort of cities.⁴

⁴Joel S. Berke and John J. Callahan, "Serrano v. Priest: Milestone or Millstone for School Finance," Journal of Public Law (Volume 21, 1972), p. 66.

In June 1978, a New York State trial court invalidated that state's system of financing elementary and secondary education. The court based its decision in part on the negative impact of municipal overburden on the capacity of urban school districts to finance public education from their local resources. The decision, Levittown v. Nyquist, ruled that:

... in measuring local funding ability, the state aid formula overstates the cities' capacity to finance their schools because it disregards the "municipal overburden" drain of non-educational services on the local tax dollar.⁵

Yet, while the Levittown litigation was the first to give legal recognition to the concept of "municipal overburden," there remain long-standing questions as to how this concept should be defined, how it should be measured, and how it can appropriately be recognized in state education aid formulas.

It has been argued that the definitions of municipal overburden, such as a high level of non-school or total tax rates or a smaller proportion of total expenditures or tax levies devoted to schools in cities, are limited in several ways. First, they fail to distinguish between communities with high expenditures and those which are heavily burdened by these expenditures. The degree of tax burden in a community is affected not only by the level of education and non-education services, but by its relative wealth, the receipt of intergovernmental aid, and the ability of local taxpayers to shift or "export" their tax burden to nonresidents. Second, these approaches do not

⁵Levittown v. Nyquist, 94 Misc. 2d. 466; 408 N.Y.S. 2d. 606 (Nassau County Supreme Court, 1978). This decision was upheld by the Appellate Division of the New York Supreme Court on October 26, 1981, but struck down by the state's highest court, the Court of Appeals, on June 23, 1982.

differentiate between expenditures on needed or required public services, and those on services which reflect local tastes or preferences. Finally, these definitions do not consider the impact of the level of noneducation tax burden in a municipality on the level of education services it provides. Many people argue that municipal overburden is a relevant concern only if a heavy tax burden for non-education services is systematically accompanied by a low level of educational services.⁶ Yet, how else does one explain the observed fiscal crises facing many large city school systems throughout the country and within Missouri?

Fiscal Stress

One explanation of this phenomenon is that these communities are fiscally stressed; that is, they have reached a point where it is unreasonable to expect the community to devote more local resources to education without some reduction in other public expenditure categories. Unfortunately, there is little agreement on a definition of fiscal stress.

⁶For a summary of the municipal overburden literature and alternative definitions and measures of this concept, see Jane Sjogren, "Municipal Overburden and State Aid for Education" in K. Forbis Jordan and Nelda Cambron-McCabe (eds.) Perspectives in State School Support Programs (Cambridge, Mass.: Ballinger Press, 1981), and James R. Knickman and Andrew J. Reschovsky, "Municipal Overburden: Its Measurement and Role in School Finance Reform," Selected Papers in School Finance 1981 (Washington, D.C.: U.S. Department of Education, National Institute of Education, School Finance Project, March 1981).

A variety of studies have attempted to relate a community's fiscal activity with its social, economic and demographic characteristics, utilizing different index designs, definitions and interpretations.⁷ Although the variables and methods used varied from one study to the next, the objective was generally the same -- to point out which cities have high public service "needs" directly. Rather they measure what has been called "structural" fiscal distress, those underlying problems, such as age of the housing stock, percent of population in poverty, and rate of population change, that can lead to long-run difficulties in obtaining adequate resources to meet local needs.⁸

An alternative index of fiscal stress has been proposed and tested in New Jersey and New York that measures the tax burden faced by the average resident in order for his local government to finance a "minimum bundle" of municipal services.⁹ Both of these studies, however, use inferential

⁷ See, for example, Paul Dommel and Richard Nathan, "Measuring Community Distress in the United States," The Brookings Institution, December 1978; Congressional Budget Office, "City Need and the Responsiveness of Federal Grant Programs," prepared for the House Subcommittee on the City, August 1978; Touche, Ross and Company and the First National Bank of Boston, "Urban Fiscal Stress: A Comparative Analysis of Sixty-Six U.S. Cities," 1979; and U.S. Department of Housing and Urban Development, Office of Policy Development and Research, "City Need and Community Development Funding," January 1979.

⁸ Knickman and Reschovsky, "Municipal Overburden," pp. 448-449.

⁹ Andrew Reschovsky and James Knickman, "Municipal Overburden in New Jersey: An Assessment" Urban Observatory Research Reports (Trenton, N.J.: New Jersey Department of Education, 1976); Jerry Miner and Seymour Sacks, Study of Adjustments of New York State Aid Formula to Take Account of Municipal Overburdens, Final Report. Prepared for the New York State Special Task Force on Equity and Excellence in Education (Syracuse, N.Y.: Syracuse University, Metropolitan Studies Program, May 1980); and Jerry Miner and Seymour Sacks, Further Study of Municipal Overburden and Its Implications for State Aid to Local Schools, Final Report. Prepared for the New York State Special Task Force on Equity and Excellence in Education. (Syracuse, N.Y.: Syracuse University, Metropolitan Studies Program, May 1981).

statistical methods to estimate required public services, and there are objections to the assumptions underlying these estimations.

A final model of fiscal stress focuses on the "maximum sustainable level" of local tax revenues that a community can raise. Although in the short run a jurisdiction can tax at any level legally permissible, in the long run households and businesses will respond to high taxes in a locality by moving elsewhere, thereby reducing the level of local economic activity and eventually reducing local revenues. Therefore, each municipality has a unique maximum level at which it can tax itself without ultimately diminishing its tax revenues.¹⁰ It is impossible to estimate this ideal tax rate, however: "fiscally-stressed communities are not readily identifiable until some financial crisis draws our attention." However, Gurwitz argues that jurisdictions characterized by low general economic growth rates and relatively high tax rates are more likely than other types of communities to suffer stress. Thus,

the municipal overburden argument has come full circle. Cities in the northeast and northcentral regions of the United States appear to suffer the lowest economic growth rate. Conditions in these cities raised the concern that originally led to the municipal overburden hypothesis. This hypothesis was seen to be less than convincing on conceptual and theoretical grounds. Nevertheless, a circuitous route from that hypothesis has led us back to the conclusion that some cities--specifically, those suffering fiscal stress--may deserve more state school aid than they would apparently receive purely on the grounds of equalization.¹¹

In short, although the precise analytic methods for defining municipal overburden may differ, certain communities tend to stand out again and again.

¹⁰ Aaron S. Gurwitz, The Economics of Public School Finance, N-1694-NIE (Santa Monica, Calif.: The Rand Corporation, March 1981), pp. 183-186. For an expanded discussion of this theory see Aaron Gurwitz, The Financial Condition of Urban School Districts: A Federal Policy Perspective (Santa Monica, Calif: The Rand Corporation, 1977).

¹¹ Gurwitz, The Economics of Public School Finance, pp. 185-186.

Income

Another major criticism of the use of property wealth as the sole measure of fiscal capacity is that property wealth does not necessarily reflect the ability of taxpayers to raise revenues for government services. Since property taxes are typically paid from income, personal income is often considered a better indicator of the ability to pay this and other types of taxes. The case for including income in the measure of fiscal capacity becomes even more convincing when there is little relationship between property values and income wealth in school districts. High property wealth districts may be low income districts (cities, or rural areas with substantial farm or vacation properties), while some suburban communities may show precisely the opposite relationship, low property values and high incomes. A school funding formula which equalizes on the basis of property valuation alone, it is argued, does not help those citizens who live in income poor, but property wealthy communities.

In Missouri, there is only a moderate relationship between property wealth per pupil and income per return. Table 2 shows districts sequenced by equalized property valuation per pupil, and broken into ten groups with an approximately equal number of pupils. Property wealth increases as one reads down column 1, but income does not rise in a direct relationship. Districts with average property valuations (groups 5, 6 and 7) have lower average incomes than their property wealth would predict. (The averages in the sixth wealth grouping are driven by the inclusion of St. Louis.)

Table 2

Relationship between Property Wealth per Pupil and
Income per Return, 1979-80

<u>Range of Eq Val/Pupil, 1979-80</u>	<u>Eq. Val/Pupil, 1979-80</u>	<u>Income/Return 1979-80</u>
\$ 7264 - \$ 15488	\$ 13530	\$ 12389
\$ 15499 - \$ 18961	17273	13227
\$ 18963 - \$ 22861	20873	13360
\$ 22951 - \$ 25054	24028	15381
\$ 25152 - \$ 28048	26533	13771
\$ 28060 - \$ 29181	28815	12798
\$ 29244 - \$ 33162	30902	15001
\$ 33167 - \$ 38726	36864	15540
\$ 38732 - \$ 46450	42533	17961
\$ 46451 - \$ 122376	56064	17322
State Average	29839	14802

Source: Missouri Department of Elementary and Secondary
Education data compiled and analyzed by the
Education Policy Research Institute, Educational
Testing Service, Princeton, N.J.

Since these figures are averages of all of the districts that fall into each group, they mask the variation in district income that can exist within each group. A statistic called the coefficient of variation (COV) measures this variation by dividing the standard deviation by the mean of the group. The larger the number, the greater the variability. For example, the COV for income per return in the second group is 0.16. This means that two-thirds of the students in that group reside in a district whose income per return is 84 to 116 percent of the average of \$13,227, a range of \$11,111 to \$15,343.

The COVs of seven of the ten groups (groups 2-8) range from 0.13 to 0.16. Those of the two wealthiest groups, however, are 0.26 and 0.37 respectively. Thus, in the group with the largest average property valuation per pupil, incomes for districts educating two-thirds of the students range from \$10,913 to \$23,731. The districts that tend to show the greatest disparity between per pupil property wealth and income per return are rural communities (districts with fewer than 250 students have an average property valuation of \$29,956 per student, right at the state average, but an average income per return of \$11,705, or 79 percent of the state average), the state's cities, and some bedroom communities.

The argument for including income in a fiscal capacity measure assumes, however, that residents pay all of the school taxes in the community and therefore lower income citizens suffer directly when high property values limit the flow of state aid to their districts. Yet, in most cases, the high property valuations are due to the presence of commercial and industrial activity or vacation properties in the community and the residential values on which homeowners (or renters) pay their taxes are in line with their income. Since the taxpayers are shifting a large portion of the school taxes to the commercial and industrial property or to the non-resident owners of vacation homes, the lack of state aid does not necessarily harm them.

A second justification for incorporating income into a fiscal capacity measure results from studies of determinants of school district expenditures in several states. These studies have shown that income wealth, as well as property wealth, positively affect the level of resources available to

students in a school district.¹³ That is, even if two districts have the same property wealth, there could be significant dollar differences in total revenue if these districts vary in the amount of resident income available. For example, a recent study of New York State showed that household income was an important determinant of the spending behavior of school districts; districts increased local school revenues by approximately \$10 for every \$1,000 difference in per household income.¹⁴

Evaluations of school funding reforms in Illinois and Ohio found that low income is associated with low and medium tax effort, while high income (along with other high socioeconomic status characteristics) is associated with high tax effort.¹⁵ Since these latter two states used capacity equalizing

¹³See, for example, E. Kathleen Adams, Analyses and Comparison of Fiscal Response in Four States (Denver, Colo.: Education Finance Center, Education Commission of the States, December 1979). This monograph includes a brief review of the education determinants literature and a bibliography.

¹⁴E. Kathleen Adams, "Analysis of Normal and Cost-Adjusted Spending Variations among New York School Districts" Journal of Education Finance 6 (Fall 1980), p. 248.

¹⁵Alan G. Hickrod, Ben C. Hubbard and Thomas Wei-Chi Yang, The 1973 Reform of the Illinois General Purpose Educational Grant-in-aid: A Description and Evaluation, 1975, Center for the Study of Educational Finance, Illinois State University, Normal, Illinois. (Also available in Esther O. Tron (ed.) Selected Papers in School Finance: 1974, USOE, 1975, Superintendent of Documents, Washington, D.C.); Bruce Gensemer, "Personal Income Variations Among Ohio School Districts and Their Implications for the Guaranteed-Yield Formula." Preliminary report to the Education Review Committee, Ohio General Assembly, June 1976; and Thomas Wei-Chi Yang and Ramesh Chandhair, "A Study of the Relationship between Selected Socio-Economic Variables and Local Tax Effort to Support Public Schools in Illinois." Report to the Technical Task Force on School Finance, Illinois Office of Education, December 1976.

education aid formulas, ones which like Missouri's GTB add-on guarantee equal revenues for equal tax effort, high income districts with their higher tax efforts could continue to raise more education revenues than the lower income districts. This is the justification for using an income factor to adjust fiscal effort, rather than fiscal capacity, or ability-to-pay, as is done in Missouri's current formula.

Finally, several states include income in the measure of fiscal capacity in their school aid formulas and the resulting aid allocations are generally beneficial to large central cities and small rural districts where income tends to be relatively lower than property values. Connecticut, for example, adopted this adjustment as one means of providing more aid to its educationally-needy cities. In Missouri, the two major cities have average (St. Louis at 97 percent of the state average) or above average (Kansas City at 169 percent of the state average) per pupil property valuations. The district income factor used in the state's operating aid formula is computed as one-half of the deviation of a district's adjusted gross income per return from the statewide average. Since the cities' average household incomes are below the state average (St. Louis at 83 percent of the average and Kansas City at 96 percent), the income factor directs more aid into these districts. The impact of this adjustment is dampened, however, by the "50 percent deviation" provision; for example, St. Louis' fiscal effort is adjusted downward by 8-1/2 percent rather than 17 percent.

Adjusting the Measure of Fiscal Capacity

Several states have taken steps to redefine fiscal capacity in a way which would more accurately measure school districts ability to fund education. Those that will be discussed here are: (1) modifying property value by income; (2) modifying property value by measures of fiscal stress; and (3) changing the denominator of the fiscal capacity measure to population.

Modifying Property Valuation by Income

Eight states currently incorporate an income-adjusted wealth measure in their equalization aid programs. As shown in Table 3, however, substantial differences exist among these measures.

The selection of an income modifier involves four sets of decisions: First, what measure of income should be used? Missouri's current income adjustment incorporates Adjusted Gross Income as reported annually on state income tax returns. This measure uses a relatively narrow definition of income; transfer payments, other untaxed income, interest on tax exempt bonds, and some long-term capital gains are excluded from its calculation. In addition, no estimate is made of the income from the population not filing returns. However, state tax data are the only income figures which are available on a school district basis.

A second consideration in defining school district income is the choice of a denominator; income can be measured on a per pupil, a household, or a per capita basis. A household (or per return) measure is currently used by Missouri. Generally, as shown in Table 4, a per capita or per household

Table 3

States Utilizing Income and Property as Measures of
Local Ability to Support Schools

State	Description
Connecticut	Property valuation per capita modified by ratio of town's per capita income to per capita income of state's income wealthiest district.
Kansas	Four-year average of adjusted property valuation plus resident taxable income in the district.
Maryland	Property valuation and taxable income per pupil.
Missouri	Property valuation per pupil, with an income factor used to adjust the required local effort in the foundation part of the aid formula. The income factor is computed as 50 percent of the deviation of a district's adjusted gross income per return from the statewide average.
New York	Property valuation per pupil for the first tier and adjusted gross income per pupil for the second tier of the operating aid formula.
Pennsylvania	District wealth measure is 60 percent dependent upon property valuation per pupil and 40 percent dependent upon personal income per pupil.
Rhode Island	Equalized property valuation per pupil modified by a median family income ratio.
Virginia	Composite index including real property valuation, individual income, and sales tax on both a per pupil and a per capita basis.

Source: Kent McGuire and Patty Flakus, School Finance at a Sixth Glance
(Denver, Col.: Education Commission of the States, 1981).

income measure is more beneficial to St. Louis and Kansas City than a per pupil measure as they have lower enrollment ratios; that is, fewer public school students in their population.

Table 4
Income Measures for Kansas City and St. Louis,
Indexed to the State Average, 1979-80

	<u>Kansas City</u>	<u>St. Louis</u>	<u>State Average</u>
Adjusted Gross Income per Eligible Pupil			
\$ Value	\$ 40,321	\$ 26,769	\$ 27,083
Index	1.49	0.99	--
Adjusted Gross Income per Return			
\$ Value	14,279	12,279	14,802
Index	0.96	0.83	--
Adjusted Gross Income per Capita			
\$ Value	4,838*	3,175	4,475
Index	1.08	0.71	--

*Since the Kansas City School District is not coterminous with the City of Kansas City, the population of the school district was estimated using the same enrollment ratio as exists in St. Louis, 12 percent.

Source: Missouri Department of Elementary and Secondary Education data compiled and analyzed by the Education Policy Research Institute, Educational Testing Service, Princeton, N.J.

Proponents of per household income measures argue that the household is the tax-paying, tax-burdened, property owning resident of the school district and is the decisionmaking unit that reflects local responses to taxing and spending decisions. Opponents contend that this measure creates a lack of consistency when it is used in conjunction with other per pupil fiscal capacity measures and that when households are indicated by the number of tax returns filed, married families filing separate returns are counted as more than one household.¹⁶

Income per capita as an indicator of fiscal capacity is commonly used in equalization formulas for allocating non-education aid in state and federal programs, and it better reflects the needs and costs for services in urbanized communities. Yet, it has been argued that a per capita measure is not the most appropriate indicator of ability to pay for education services alone, and in Missouri, population data are not readily available by school district between decennial censuses.

Once income has been defined for purposes of including it in a fiscal capacity measure, a policymaker must address the question: What is the most appropriate way to incorporate income into an education aid formula? The approaches now in use by the eight states can be divided into three groups: those that are "additive," that is, income has been added to property valuation (Kansas, Maryland, Virginia and Pennsylvania); those that are "multiplicative,"

¹⁶This is a problem only if the percentage of married couples filing separate returns varies significantly across income classes.

where property valuation is multiplied by a ratio of district income to some key wealth measure, such as the state average income (Connecticut, Missouri and Rhode Island), and New York, where property valuation is used in the base tier of the operating aid formula and income is used in the second, add-on tier.

These methods can generate significantly different measures of fiscal capacity. For example, as shown in Table 5, Kansas City's property wealth per pupil is 169 percent of the state average. When income is added to property wealth, the relative per pupil fiscal capacity measure drops to 159 percent. When property wealth is multiplied by a ratio of per pupil income to the state average, its relative fiscal capacity jumps to 252 percent of the average. Thus, if a district has an above average income ratio, the additive approach is more beneficial.* In St. Louis, where per pupil income is closer to the state average than is per pupil property wealth, an additive adjustment makes the district look relatively wealthier, while a multiplicative adjustment makes the district look poorer.

Table 5

	<u>Full Value</u> <u>Per pupil, 1979</u>		<u>Income Per</u> <u>Pupil, 1979</u>		<u>Full Value plus</u> <u>Income Per Pupil</u>		<u>Full Value Times</u> <u>Income Ratio</u>	
Kansas City	\$50,459	1.69	\$40,321	1.49	\$90,780	1.59	\$75,184	2.52
St. Louis	28,931	0.97	26,769	0.99	55,700	0.98	28,642	0.96

Source: Missouri Department of Elementary and Secondary Education data compiled and analyzed by the Education Policy Research Institute, Educational Testing Service, Princeton, N.J.

*If an income per return ratio had been used instead of the per pupil ratio, Kansas City's wealth measure using the multiplicative approach would have been \$48,440, or 162 percent of the state average.

Finally, if a multiplicative approach is considered, what should be the key wealth measure in the income ratio? Missouri and Rhode Island relate district income to a state average. Therefore, those districts with below average incomes will have their fiscal capacity measure made lower, while those with above average incomes will look relatively wealthier. Recent revisions in the Connecticut formula, however, have related district income to the income of the wealthiest town in the state. A recent study commission in New York State proposed that district income per return be compared to the income of the district at the 75th percentile of income wealth.

Adjustments for Concentrations of Poverty

In recent years, both state and federal policies have attempted to target aid to economically deprived students by using measures of poverty in aid formulas. The number or proportion of residents living in poverty, however, is indicative of more than educational need. It also represents constraints on the ability of school districts to raise education revenues, constraints that may not be recognized when average or median income measures are used in the definition of school district wealth. For example, extremely high incomes will tend to skew average income upward, thereby understating the proportion with extremely low incomes, some of whom may not even file income tax returns. A formula adjustment for poverty would work to the advantage of urban areas whose average or above average incomes may preclude them from much needed education aid.

Two types of formula adjustments could be used to reflect the distribution of income within a community. Income or property could be modified by a poverty index (before property wealth could be adjusted by an income factor), or a measure of poverty, e.g., the concentration of poverty families or students, could be used to modify the denominator of the fiscal capacity measure. In Illinois, for example, property wealth is divided by a pupil count that includes an additional weight for each Title I child; this weight ranges up to 0.675 depending upon the concentration of Title I pupils in the district.¹⁷

Poverty/Size/Density and Tax Rate Adjustments

A different type of direct adjustment to the fiscal capacity measure includes those characteristics of school districts that are associated with non-school overburden and/or fiscal stress. Analyses have shown that poverty, population size and population density are significant factors in creating a greater demand for municipal services in large cities.¹⁸ A recent study in New York State resulted in similar findings:

¹⁷For an expanded discussion of these alternatives, see Joel S. Berke et al., "Implementing the Urban Mandate of Levittown v. Nyquist: An Analysis of Alternative Approaches to Compensating for Municipal Overburden in the New York State Aid Formula: An Interim Report" (Princeton, N.J.: Education Policy Research Institute of Educational Testing Service, March 1981).

¹⁸Roy Bahl, "Survey of Expenditure Studies: in Selma Mushkin and John Cotton, (eds.) Sharing Federal Funds for State and Local Needs: Grants-in-Aid and PPB Systems (New York, N.Y.: Praeger, 1969); and Gail Wilensky, "Determinants of Local Government Expenditures" in John Crecine, ed., Financing the Metropolis (New York, N.Y." Sage, 1970).

Four key variables, apart from city status, (percent residential, property value per capita, population size, and property density) account for over 80 percent of the explained variance of the non-school burden. These considerations suggest that allocating overburden aid according to a formula that took these four factors into account would substantially provide aid in accordance with non-school burdens.¹⁹

An adjustment could be designed which would reduce a district's fiscal capacity along a scale if its poverty, population or density were greater than established cut off points. Similarly, the district's tax base could be reduced, for purposes of allocating education aid, if its non-school tax rate exceeded the state average by a stated amount. Michigan's municipal overburden adjustment, for example, provides additional aid when a district's non-education tax rate exceeds the state average by 25 percent. Aid is provided to 49 districts with Detroit receiving more than 70 percent of these funds.

Property Valuation per Capita

Property valuation per capita is used in three states now as a measure of district wealth. Connecticut and Massachusetts use a straight per capita approach, while Virginia defines district wealth partially (one-third) on a per capita basis and partially (two-thirds) on a per average daily membership (ADM) basis. Changing the denominator in the fiscal capacity measure from pupils to population better reflects the capacity of a school district to raise revenues for all public services, not just education. This approach generally directs more aid to cities because they tend to have below average

¹⁹ Miner and Sacks, Study of Adjustments of New York State Aid Formula..., p. 58.

enrollment ratios. For example, under a per pupil property wealth measure St. Louis is at 97 percent of the state average and Kansas City is 169 percent of the average property wealth. When a per capita property wealth measure is used significant benefits accrue to Missouri's large cities. The relative fiscal capacity of St. Louis and Kansas City drop to 70 percent and 123 percent of the state average, respectively.

Summary

This paper has examined the limitations of using the value of real property in a school district as a measure of school district wealth. Although that variable is grounded in years of tradition and application in almost all states, there are demographic, economic, and fiscal conditions at work in the nation's cities that limit the suitability of property wealth alone to indicate the financial ability of a school district to pay for education. Many of the nation's cities and some of its larger suburban districts have such high public service needs that their taxpayers face unfair total local tax burdens. When these municipal needs are coupled with deteriorating tax bases, school districts face economic limits on the revenues they can raise for education. And property wealth does not necessarily reflect the ability of taxpayers to raise money for education, especially in those communities with high concentrations of families earning poverty-level incomes.

Many states, including Missouri, have taken steps to redefine fiscal capacity in a way that recognizes these limitations. These approaches include modifying property value by income, modifying property value by

measures of fiscal stress and changing the denominator of the fiscal capacity measure to population. The implementation of any of these alternatives involves several sets of decisions concerning the definition of variables, the availability of data, and the design of the adjustment. It is important for the policymaker to recognize that the distribution of aid under any of these alternatives is largely a function of the relative fiscal capacity of a specific urban district and the way in which the adjustment is structured.

ANALYSIS TITLE: NO FORMULA W/ INCOME WEALTH MEASURE
 REPORT TITLE: AID DIFFERENCE: % CHANGE SEQ
 PUPIL GROUP: 6.

DISTRICT CODE	DISTRICT NAME	ELIGIBLE PUPILS 1979-80	EQ VAL/ E.P. 1979-80	INCOME/ RETURN 1979-80	SIMUL. ENTITLE. W/INCOME	ACTUAL ENTITLE. 1980-81	% DIFF AGGREG. AID
040103	(E) R-VI PLEASANT VIEW	109.	46766.	15270.	441.	340.	29.51
044078	R-III CRAIG	227.	48300.	14571.	495.	382.	29.55
065098	R-V PRINCETON	481.	44454.	10523.	569.	438.	29.94
021149	R-II BRUNSWICK	324.	50084.	12372.	545.	415.	31.35
015003	R-IV CLIMAX SPRINGS	217.	48328.	8869.	597.	454.	31.50
017124	R-V BOWWORTH	159.	48711.	11714.	533.	403.	32.23
096098	101 AFFTON	2500.	55154.	15829.	473.	358.	32.29
017127	(E) C-2 WAKENDA	77.	48995.	14166.	415.	312.	33.00
017126	R-VIII NCRBORNE	306.	46923.	15126.	425.	319.	33.08
054042	R-X LAFAYETTE COUNTY	444.	46848.	13855.	437.	325.	34.68
058106	R-IV LEADVILLE	198.	50236.	13218.	520.	386.	34.74
041001	R-I CAINSVILLE	114.	42662.	10465.	659.	486.	35.51
105125	R-III NEWTOWN-HARRIS	120.	45203.	9977.	617.	455.	35.65
080122	(E) R-XII PETTIS COUNTY	109.	48501.	11326.	503.	371.	35.67
074187	R-VII NODAWAY-HOLT	411.	50482.	12004.	500.	368.	36.07
096113	VALLEY PARK	615.	58311.	13449.	579.	425.	36.11
108139	R-II METZ	92.	49054.	13553.	617.	452.	36.40
031118	R-III JAMESON	94.	44490.	9541.	613.	446.	37.41
066105	R-II SCHOOL OF THE OSAGE	880.	50476.	10980.	493.	358.	37.64
054037	R-II CONCORDIA	356.	47359.	12413.	495.	357.	38.60
089077	R-XV STET	114.	49786.	13840.	604.	435.	38.70
096093	R-VII LINDBERGH	7116.	46451.	19305.	453.	327.	38.72
050007	(E) R-VII JEFFERSON	630.	58818.	16022.	410.	295.	38.82
096090	R-II PATTONVILLE	7500.	59470.	19136.	410.	295.	38.83
017121	R-I HALE	131.	48326.	11329.	582.	418.	39.14
032059	(E) R-VI FAIRPORT	27.	93561.	9737.	671.	481.	39.58
042121	R-XIV MONTROSE	143.	52032.	11134.	550.	393.	40.10
062105	(E) R-X EDNCL	100.	79873.	15595.	417.	295.	41.24
063002	R-II WEST PLATTE	772.	72347.	15865.	551.	389.	41.43
075078	(E) 48 ALTENBURG	105.	52311.	11605.	488.	342.	42.77
060115	(E) R-I PETTIS COUNTY	39.	54601.	15960.	422.	295.	42.98
096107	MAPLEWOOD-RICHMOND HEIGHTS	1715.	55818.	14035.	483.	338.	43.20
062101	R-III PIKE	538.	58511.	12836.	461.	322.	43.21
097114	(E) R-I MIAMI	124.	64402.	15678.	428.	295.	45.09
047065	C-4 IRON COUNTY	819.	72613.	13491.	430.	295.	45.89
003033	R-III FAIRFAX	262.	50461.	13550.	456.	307.	48.71
021148	R-I NORTHWESTERN	265.	58110.	12037.	497.	333.	49.29
042119		82.	104047.	14799.	456.	296.	54.96
096101	BRENTWOOD	927.	64797.	15468.	470.	295.	59.35
097118	(E) R-IV OREARVILLE	75.	60141.	14097.	475.	295.	61.16
014130	R-II SOUTH CALLAWAY	642.	56296.	13129.	507.	312.	62.47
097117	(E) R-II CENTRAL	38.	61218.	12043.	497.	298.	66.75

DISTRICT CODE	DISTRICT NAME	ELIGIBLE PUPILS 1979-80	EQ VAL/ E.P. 1979-80	INCOME/ RETURN 1979-80	SIMUL. ENTITLED W/INCOME	ACTUAL ENTITLED 1980-81	% DIFF AGGREG. AID
043002	R-II WHEATLAND	258.	38062.	9399.	605.	532.	13.68
052096	R-I KNOX COUNTY	934.	37652.	11300.	566.	497.	13.92
043004	R-IV HERMITAGE	225.	39931.	9894.	651.	571.	13.96
031122	R-VII TRI-COUNTY	214.	35720.	10059.	679.	596.	14.00
036139	WASHINGTON	2831.	36999.	14876.	473.	414.	14.22
027056	R-IV COOPER COUNTY	173.	37003.	11688.	617.	540.	14.25
016096	63 CAPE GIRARDEAU	4165.	39691.	15279.	472.	412.	14.39
102081	C-1 SHELLEY COUNTY	468.	38732.	11646.	593.	517.	14.76
099078	R-II GORIN	89.	37119.	9550.	832.	723.	14.99
041004	R-IV GILMAN CITY	187.	37309.	11155.	585.	505.	15.85
015002	R-III CAMDENTON	2290.	39269.	11128.	523.	450.	16.25
099082	R-I SCOTLAND COUNTY	712.	36006.	10820.	587.	504.	16.43
113001	R-III NORTH COUNTY	559.	40034.	10290.	612.	524.	16.93
023094	C-1 WYACONDA	105.	37033.	9988.	654.	560.	16.95
074202	R-IV SOUTH NODAWAY	203.	39417.	11578.	586.	500.	17.19
074201	R-II MARYVILLE	1497.	40068.	13630.	492.	419.	17.50
096114	WEBSTER GROVES	3983.	44375.	18713.	455.	386.	18.05
041002	R-II SOUTH HARRISON	817.	39052.	10598.	586.	496.	18.11
008110	R-IX X BENTON COUNTY	52.	44436.	12413.	567.	479.	18.39
064074	R-I PALMYRA	1048.	42509.	12730.	545.	460.	18.61
003031	R-I TARKIO	516.	36065.	13757.	514.	433.	18.77
042113	(E) R-III SHAWNEE	104.	43063.	13118.	523.	439.	18.93
003032	R-II ROCK PORT	646.	38277.	14287.	473.	394.	19.93
031116	R-II PATTONSBURG	213.	40309.	11309.	631.	526.	19.99
065096	R-III NORTH MERCER	202.	39176.	9044.	680.	562.	20.81
095059	R-II STC. GENEVIEVE	1649.	43421.	14142.	468.	387.	20.94
096095	PARKWAY	22841.	45033.	24385.	357.	295.	21.18
097127	(E) C-4 GILLIAM	59.	42074.	12943.	506.	417.	21.29
027057	R-V PRAIRIE HOME	143.	40969.	12253.	535.	439.	21.63
096091	R-VI ROCKWOOD	9927.	46015.	18739.	417.	342.	21.97
096104	JENNINGS	2371.	42402.	13440.	503.	412.	22.31
003034	(E) R-IV WESTBORD	109.	52454.	22040.	361.	295.	22.51
099079	(E) R-IV RUTLEDGE	49.	41126.	12120.	529.	430.	22.66
044083	R-II HOLT COUNTY	377.	42671.	12437.	478.	390.	22.71
002091	C-1 FILLMORE	115.	41385.	11439.	635.	515.	23.32
076061	R-I USAGE COUNTY	276.	42660.	11267.	558.	450.	23.79
090077	R-II BUNKER	471.	44890.	11898.	524.	421.	24.29
097122	(E) R-X HARDEMAN	101.	43389.	14080.	442.	355.	24.47
031115	R-I COFFEY	70.	39889.	10394.	588.	472.	24.50
021150	R-III KEYTESVILLE	284.	45772.	12819.	518.	416.	24.60
090078	R-IV LESTERVILLE	327.	45175.	12223.	545.	436.	24.80
088080	R-I WESTRAN	697.	45757.	12407.	532.	424.	25.51
038044	R-I KING CITY	373.	45888.	10859.	541.	430.	25.71
048080	SB CENTER	3422.	49067.	17200.	450.	355.	26.74
096092	R-VII KIRKWOOD	5010.	52373.	21173.	377.	295.	27.90
041003	R-III NORTH HARRISON	306.	42502.	9426.	634.	455.	28.13
044084	R-I SOUTH HOLT	414.	46450.	12372.	512.	397.	28.89
048078	33 KANSAS CITY	36531.	50459.	14278.	517.	401.	29.12
099080	(E) R-V BIBLE GROVE	40.	41661.	8286.	513.	397.	29.21
074190	R-I WEST NODAWAY	400.	49874.	11560.	558.	431.	29.48

ANALYSIS TITLE: MD FORMULA W/ INCOME WEALTH MEASURE
 REPORT TITLE: AID DIFFERENCE: & CHANGE SEQ
 PUPIL GROUP: J.

DISTRICT CODE	DISTRICT NAME	ELIGIBLE PUPILS 1979-80	EQ VAL/ E.P. 1979-80	INCOME/ RETURN 1979-80	SIMUL. ENTITLE. W/INCOME	ACTUAL ENTITLE. 1980-81	% DIFF AGGREG. AID
019142	R-II RAYMORE-PECULIAR	2300.	14605.	18286.	659.	857.	-23.12
019152	124 BELTON	3184.	13923.	15625.	847.	1067.	-22.05
050010	C-1 WINDSOR	1922.	16770.	16981.	731.	919.	-20.39
073105	(E) C-6 WLSTVIEW	161.	9090.	14029.	841.	1032.	-18.59
019147	(E) 40 EAST LYNNE	204.	15811.	14459.	809.	978.	-17.25
050012	C-6 FOX	8897.	15481.	16179.	767.	912.	-15.88
050002	R-II CHANDVIEW	690.	16537.	16365.	768.	908.	-15.41
050003	R-III HILLSBORG	2800.	15408.	15412.	803.	948.	-15.27
019148	R-III PLEASANT HILL	1079.	17501.	15951.	757.	888.	-14.80
078004	R-IV COOTER	327.	14390.	15385.	730.	855.	-14.63
048066	R-I FORT OSAGE	5400.	16605.	16164.	763.	893.	-14.60
019149	R-IX HARRISONVILLE	1920.	19389.	15601.	749.	875.	-14.47
019151	R-I MIDWAY	584.	16048.	14991.	743.	869.	-14.43
057004	R-IV WINFIELD	969.	17195.	14914.	728.	850.	-14.28
089080	R-XIV LAWSON	1132.	16132.	16125.	693.	809.	-14.26
033093	(E) R-III DENT-PHILLIPS	428.	19299.	10719.	656.	764.	-14.22
005122	R-IV EXETER	269.	10945.	14482.	788.	918.	-14.15
092088	R-II FRANCIS HOWELL	7783.	23197.	18834.	644.	749.	-14.12
094079	(E) C-1 KNOB LICK	119.	16623.	14592.	646.	752.	-14.09
024086	R-I KEARNEY	1900.	22605.	19018.	638.	742.	-13.98
050001	R-I NORTHWEST	6550.	15499.	15797.	770.	892.	-13.70
050014	73 DESOTO	2873.	15488.	14675.	791.	916.	-13.68
078003	(E) R-III PEMISCOT COUNTY	265.	21358.	17576.	683.	788.	-13.32
010089	R-IV BOONE COUNTY	909.	12847.	13532.	830.	954.	-13.00
010096	(E) C-7 MIDWAY HEIGHTS	415.	21719.	15841.	665.	764.	-12.95
048068	R-IV BLUE SPRINGS	7800.	23867.	18902.	619.	710.	-12.86
048075	C-6 LONE JACK	345.	18309.	15853.	735.	842.	-12.75
019150	R-IV DREXEL	265.	21943.	13834.	786.	901.	-12.72
051150	R-I KINGSVILLE	321.	17691.	14322.	725.	829.	-12.58
039142	R-X FAIR GROVE	885.	11567.	13260.	831.	949.	-12.51
046137	(E) C-12 JUNCTION HILL	270.	11425.	12872.	826.	943.	-12.44
050006	R-VI FESTUS	1718.	18762.	15033.	791.	901.	-12.17
010092	R-VIII HARRISBURG	420.	14467.	14420.	837.	953.	-12.15
092087	FT. ZUMWALT	6850.	24178.	17623.	598.	681.	-12.07
025002	R-II LATHROP	841.	19559.	14840.	698.	794.	-12.04
046129	(E) C-2 PEACE VALLEY	62.	11972.	12964.	889.	1009.	-11.97
050009	(E) R-IX SUNRISE	385.	18219.	14092.	788.	896.	-11.96
057003	R-III TROY	1994.	19358.	14260.	684.	776.	-11.91
018050	R-I VAN BUREN	531.	10796.	10521.	954.	1082.	-11.81
083005	R-V PARK HILL	6118.	28420.	18544.	553.	627.	-11.76
048070	R-IV OAK GROVE	1516.	15071.	15074.	755.	854.	-11.64
024089	40 EXCELSIOR SPRINGS	3270.	18963.	16054.	741.	838.	-11.62
089067	R-XI GRIFFICK	449.	20849.	15545.	776.	876.	-11.42
078012	18 CAROTHERSVILLE	1683.	10905.	13508.	919.	1038.	-11.41
092090	ST. CHARLES	7175.	26515.	16735.	662.	746.	-11.18
049132	R-I CARL JUNCTION	1875.	15870.	13340.	804.	905.	-11.16
010067	R-I SOUTHERN BOONE COUNTY	670.	18116.	14669.	829.	931.	-10.96
046140	(E) R-XI FAIRVIEW	590.	9139.	10382.	907.	1019.	-10.93
068071	(E) R-III HIGH POINT	151.	17687.	12552.	764.	880.	-10.92
092089	R-IV WENTZVILLE	2771.	30076.	18437.	537.	602.	-10.77

ANALYSIS TITLE : MD FORMULA W/ INCOME WEALTH MEASURE
 REPORT TITLE : AID DIFFERENCE: % CHANGE SEQ
 PUPIL GROUP: 1.

DISTRICT CODE	DISTRICT NAME	ELIGIBLE PUPILS 1979-80	EQ VAL/ F.P. 1979-80	INCOME/ RETURN 1979-80	SIMUL. ENTITLED W/INCOME	ACTUAL ENTITLED 1980-81	% DIFF AGGREG. AID
010090	R-V BOONE COUNTY	329.	18812.	13316.	718.	804.	-10.73
022094	R-VII SPOKANE	387.	11510.	11788.	795.	891.	-10.72
022093	R-VI OZARK	1600.	14156.	13642.	763.	854.	-10.66
005121	R-V SOUTHWEST	653.	9079.	10672.	944.	1055.	-10.46
080119	R-VI SMITHTON	634.	20671.	14154.	664.	764.	-10.42
022089	R-II NIXA	1090.	14692.	14840.	739.	823.	-10.25
085045	R-V LAQUEY	570.	8082.	11590.	893.	994.	-10.19
090075	(E) R-I CENTERVILLE	172.	11435.	10764.	1007.	1120.	-10.11
014127	R-III CALLAWAY COUNTY	495.	19269.	13684.	726.	807.	-10.09
078009	C-7 PEMISCOT COUNTY	399.	21366.	15578.	744.	827.	-10.08
019140	(E) C-3 STRASBURG	150.	19991.	12943.	754.	838.	-10.04
048069	R-V GRAIN VALLEY	754.	21341.	16330.	695.	773.	-10.04
084606	R-VI PLEASANT HOPE	728.	12211.	12777.	805.	892.	-9.79
042118	(E) R-IX LEESVILLE	162.	14700.	11906.	730.	809.	-9.79
039139	R-VIII GREENE COUNTY	1323.	15945.	14521.	767.	850.	-9.76
046135	(E) R-VIII GLENWOOD	307.	12032.	10998.	916.	1015.	-9.73
066103	R-III MILLER COUNTY	251.	15062.	11593.	898.	994.	-9.69
046132	(E) R-IV RICHARDS	390.	11420.	10785.	953.	1056.	-9.69
022088	R-I CHADWICK	250.	9163.	10267.	919.	1017.	-9.66
061151	C-4 BEVIER	260.	16097.	11099.	945.	1046.	-9.62
112103	R-II SEYMOUR	800.	13261.	12126.	850.	940.	-9.61
018047	R-II EAST CARTER	739.	7264.	9846.	953.	1054.	-9.59
022090	R-III SPARTA	419.	11314.	10962.	857.	948.	-9.56
078005	R-V SOUTH PEMISCOT	837.	16392.	12824.	861.	951.	-9.47
019144	R-VIII SHERWOOD	843.	19552.	12827.	775.	856.	-9.44
114112	R-I NORWOOD	270.	13427.	10039.	906.	1001.	-9.43
049144	R-VII WEBB CITY	2370.	14729.	11652.	827.	912.	-9.31
094086	R-III ST. FRANCIS COUNTY	1863.	18718.	14151.	769.	848.	-9.29
039136	R-V WALNUT GROVE	329.	13789.	11966.	862.	950.	-9.28
096112	UNIVERSITY CITY	6033.	31694.	17306.	602.	663.	-9.26
111087	R-I CLEARWATER	1144.	13196.	10231.	912.	1004.	-9.13
011079	R-IV DEKALB	432.	19676.	13716.	895.	984.	-9.08